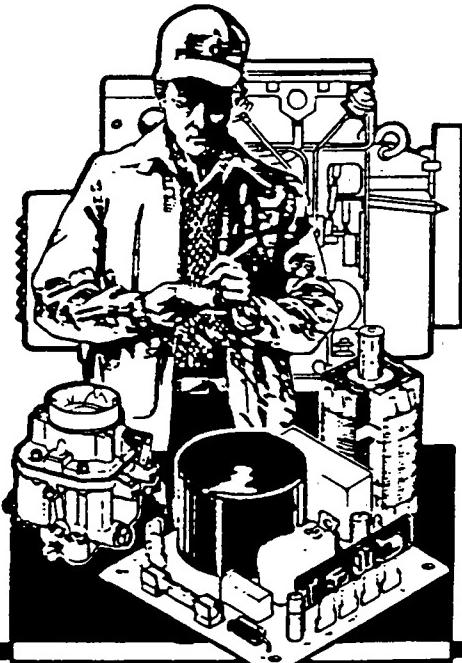


**Onan**

# **Parts Manual**

**AJ  
GenSet**



**Onan Service Parts**

**924-0221  
1-90 (SPEC P)  
Replaces 4-82 (Spec A-N)  
Printed in U.S.A.**

## SAFETY PRECAUTIONS

The following symbols are used in Onan manuals to alert users to the potentially dangerous conditions relating to maintenance of the equipment and replacement of parts. Please read and observe.

**DANGER** *This symbol warns of immediate hazards which will result in severe personal injury or death.*

**WARNING** *This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.*

**CAUTION** *This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.*

## MODEL IDENTIFICATION

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO., and SERIAL NO. from the Onan nameplate.

For handy reference, insert your nameplate information in the spaces below:

---

MODEL AND SPEC NO.

---

SERIAL NO.

## PRODUCT SAFETY PRECAUTIONS

**WARNING**

**Contact with USED ENGINE OILS has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When checking or changing engine oils take all necessary precautions not to ingest, breathe the fumes or contact the used oil.**

**WARNING**

**Contact with ASBESTOS has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When handling engine gaskets take all necessary precautions not to ingest, breathe or contact the dust from the gaskets! Use adequate ventilation and wear protective gloves, masks and clothing!**

**WARNING**

**Contact with BENZINE and LEAD, found in gasoline, fuel additives and solvents has been identified by a United States federal agency and some USA agencies as causing CANCER or REPRODUCTIVE TOXICITY. When checking, draining or adding gasoline and fuel additives, or using solvents take all necessary precautions not to ingest, breathe the fumes, or contact the liquids. Use adequate ventilation and wear protective gloves, masks and clothing!**

## Introduction

This catalog applies to the AJ generating sets as listed below and factory installed options. Parts are arranged in groups of related items. Each illustrated part is identified by a reference number corresponding to the same reference number in the parts list for that group. Parts illustrations are typical. Using the MODEL and SPEC NO. from the set nameplate, select the Parts Key No. (1, 2, etc., in the last column) that applies to your Generator Set Model and Spec No. This Parts Key No. represents parts that differ between models. Unless otherwise mentioned in the description, parts are interchangeable between models. Right and left sides are determined by facing the engine end (front) of the set.

## Generator Set Data Table

MODEL AND SPEC NO.*	ELECTRICAL DATA					PARTS KEY NO.
	TYPE	WATTS	VOLTS†	HERTZ	RPM	
.8AJ-51M/ .8AJ-52M/ 1.0AJ-1M/ 1.0AJ-2M/	Manual	800	120AC	50	1500	1
	Manual	800	240AC	50	1500	
	Manual	1000	120AC	60	1800	
	Manual	1000	240AC	60	1800	
.8AJ-51R/ .8AJ-52R/ 1.0AJ-1R/ 1.0AJ-2R/	Remote	800	120AC	50	1500	2
	Remote	800	240AC	50	1500	
	Remote	1000	120AC	60	1800	
	Remote	1000	240AC	60	1800	
1.5AJ-224E/ 1.5AJ-232E/	Battery Charger	1500	24	DC	2400	3
		1500	32	DC	2400	
2.0AJ-51M/ 2.0AJ-52M/ 2.5AJ-1M/ (2.5AJ-EA) 2.5AJ-2M/	Manual	2000	120AC	50	3000	4
	Manual	2000	240AC	50	3000	
	Manual	2500	120AC	60	3600	
	Manual	2500	240AC	60	3600	
2.0AJ-51P/ 2.0AJ-52P/ (2.0AJ-AU) 2.5AJ-1P/ (2.5AJ-AA) 2.5AJ-2P/	Portable	2000	120AC	50	3000	5
	Portable	2000	240AC	50	3000	
	Portable	2500	120AC	60	3600	
	Portable	2500	240AC	60	3600	
2.0AJ-53M/ 2.5AJ-3M/ (2.5AJ-EB)	Manual	2000	120/240AC	50	3000	6
	Manual	2500	120/240AC	60	3600	
2.0AJ-53P/ (2.0AJ-AN) 2.5AJ-3P/ (2.5AJ-AB)	Portable	2000	120/240AC	50	3000	7
	Portable	2500	120/240AC	60	3600	
2.0AJ-51F/ 2.0AJ-52R/ 2.5AJ-2R/ 2.5AJ-1R/	Remote	2000	120AC	50	3000	8
	Remote	2000	240AC	50	3000	
	Remote	2500	240AC	60	3600	
	Remote	2500	120AC	60	3600	
2.0AJ-53R/ 2.5AJ-3R/	Remote	2000	120/240AC	50	3000	9
	Remote	2500	120/240AC	60	3600	
1.5AJ-115M/	Manual	1500	115	DC	2600	10
2.0AJ-AU	Portable		240AC	50	1500	

\* - Spec Letter advances with manufacturing changes (A to B, B to C, etc.)

† - Reference to 120, 240, and 120/240 volt also applies to 115, 230, and 115/230 volt.

## STANDARD GENERATOR PARTS SECTION

This section contains the Engine, Generator and Control parts used on standard units listed in the Generator Set Data Table.

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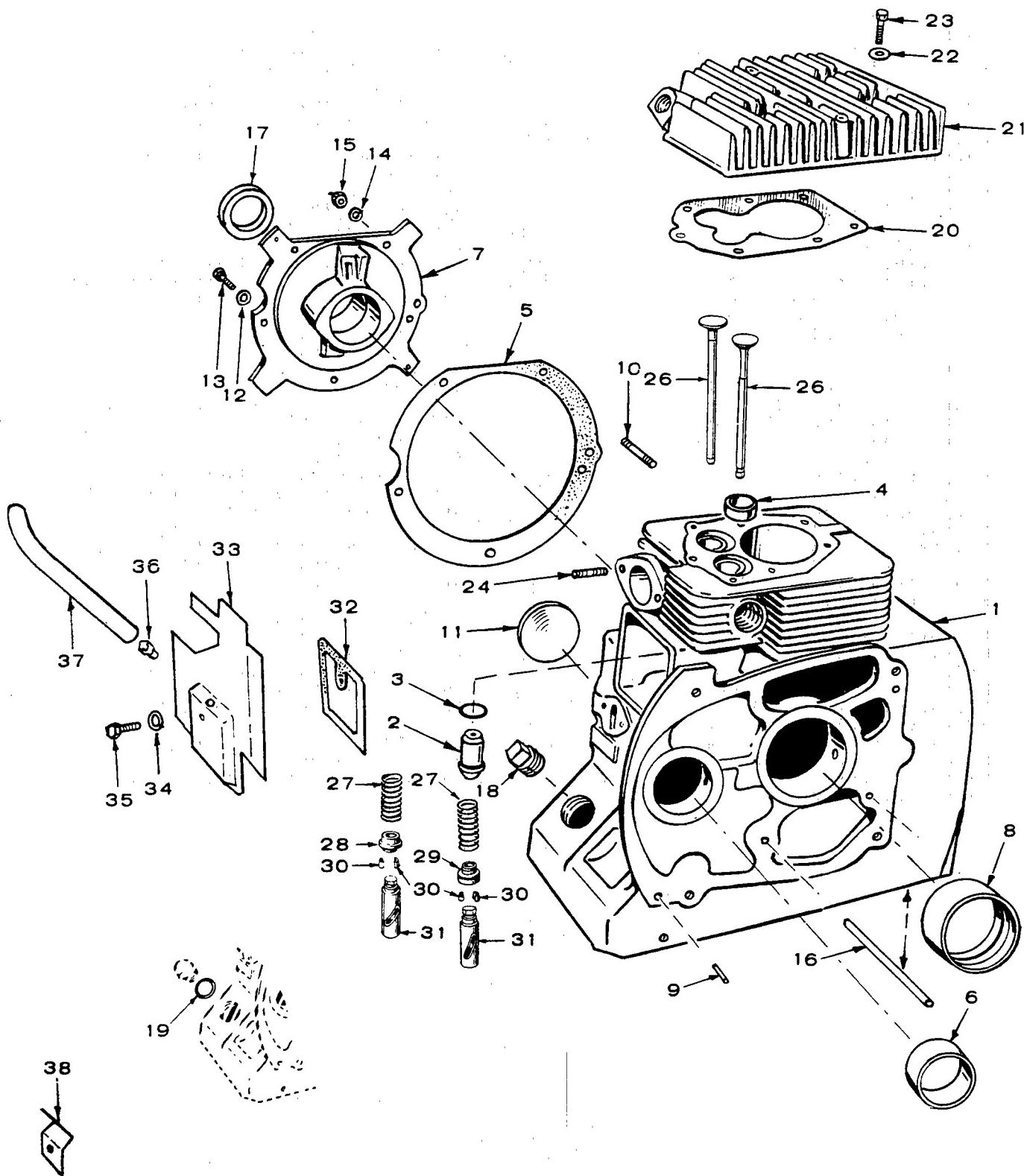
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### Cylinder Block

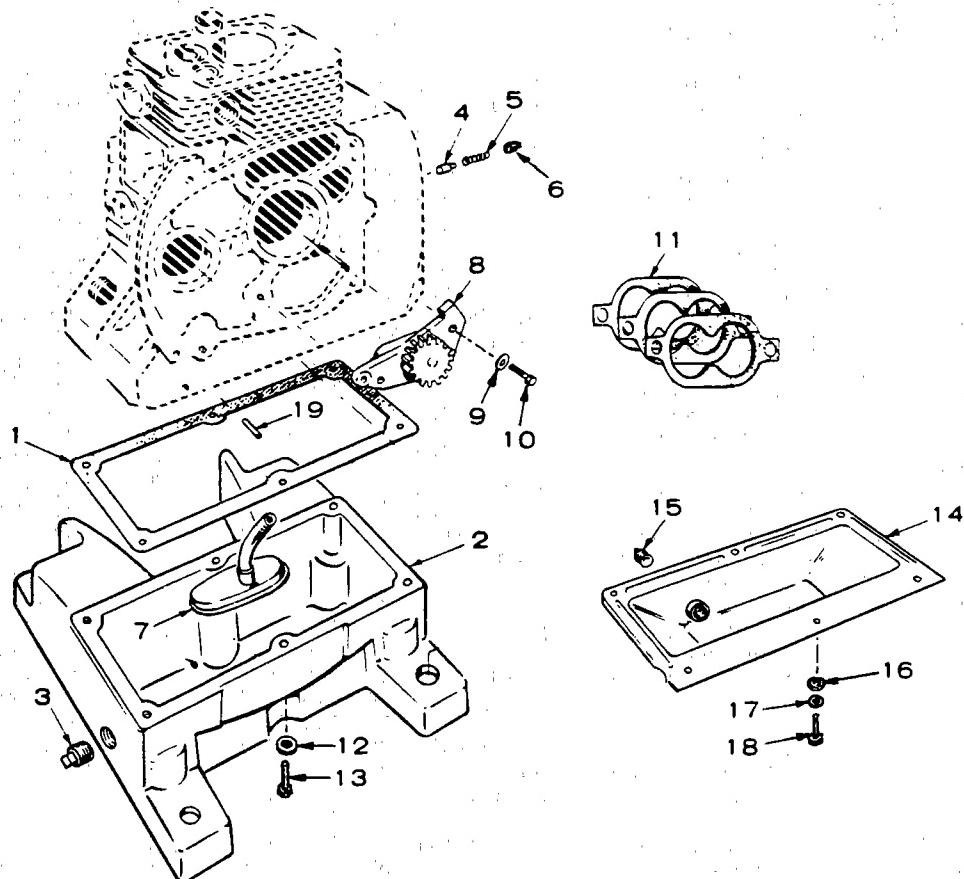


## Cylinder Block

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION		
1			Block Assembly, Cylinder (Includes Parts Marked *)	15	110-0445	4	*Nut, Hex (Special)		
110-0876	1		Key 1,2,10	16	120-0387	1	*Tube, Crankcase Oil - Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)		
110-0877	1		Key 3 (24 Volt Output, Begin Spec J)	17	509-0041	1	Seal, Oil - (NOTE: Available in Overhaul Gasket Kit 168-0062)		
110-0876	1		Key 3 (24 Volt Output, Spec A through H)	18	505-0130	1	Plug, Oil Fill (3/4") (Cast Iron)		
110-0876	1		Key 3 (32 Volt Output)	19		1	Gasket, Fill Plug (Order 505-0130 Plug)		
110-0877	1		Key 4 through 9	20	110-0836	1	Gasket, Cylinder Head		
2 110-0441	2		*Guide, Valve	21	110-1778	1	Head, Cylinder		
3 110-0068	1		*Gasket, Valve Guide - Intake Insert, Exhaust Valve Seat	22	526-0122	7	Washer, Flat (11/32" ID x 2-3/32" OD x 10 Gauge Thk)		
4			* Standard	23			Screw, Cap - Hex Head (Special)		
110-0826	1		.002" Oversize	110-0879		4	(Special)		
110-0826-02	1		.005" Oversize	110-0284		3	Stud, Carburetor Mounting		
110-0826-05	1		.010" Oversize	24	520-0632	2	Begin Spec K (1/4 x 1-1/2")		
110-0826-10	1		.025" Oversize	520-0363		2	Specs A through J (1/4 x 1-9/16")		
110-0826-25	1			26			Valve		
5 101-0257	1		*Gasket Kit, Bearing Plate to Engine	110-0828		1	Intake		
6 101-0367	2		*Bearing, Camshaft - Precision	110-0827		1	Exhaust		
7			*plate, Rear Bearing (Less Bearing)	27	110-0609	2	Spring, Valve		
101-0233	1		Key 1,2,10 (Also Key 3, 24 Volt Output - Specs A through H)	28	110-0558	1	Retainer, Intake Valve		
101-0252	1		Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)	29	110-0540	1	Rotocap, Exhaust Valve		
101-0404	1		Sets With Low Oil Pressure Cut-Off - Key 3 (Begin Spec J) Keys 4 through 9 (Begin Spec F)	30	110-0008	4	Lock, Valve Spring Retainer		
8			Bearing, Crankshaft - Precision	31			Tappet, Valve Standard		
101-0290	2		* Standard	115-0006		2	.005" Oversize		
101-0290-02	2		.002" Undersize	115-0006-05		2	Gasket, Valve Cover		
101-0290-10	2		.010" Undersize	32	110-0832	1	Cover, Valve		
101-0290-20	2		.020" Undersize	33	110-0840	1	Washer, Flat - Copper (17/64" ID x 7/16" OD x 1/32" Thk)		
101-0290-30	2		.030" Undersize	34	526-0063	1	35 800-0015	1	Screw, Cap - Hex Head (1/4-20 x 3")
9 516-0012	2		*Pin, Dowel - Gear Cover Align (1/4 x 5/8")	36	123-0486	1	Valve, Breather		
10 520-0526	4		*Stud, Rear Bearing Plate (5/16 x 1-1/4")	37	503-0736	1	Hose, Breather (Not used on Key 3, 24 Volt Output - Begin Spec J)		
11 517-0048	1		*Plug, Expansion (1-5/8" Dia.)	38	123-0788	1	Baffle, Breather - Key 3, 24 Volt Output - Begin Spec J		
12 526-0065	1		*Washer, Flat (21/64" ID x 9/16" OD x 1/16" Thk)						
13 800-0028	1		*Screw, Cap - Hex Head (5/16-18 x 1")						
14 850-0045	4		*Washer, Lock - Spring (5/16")						

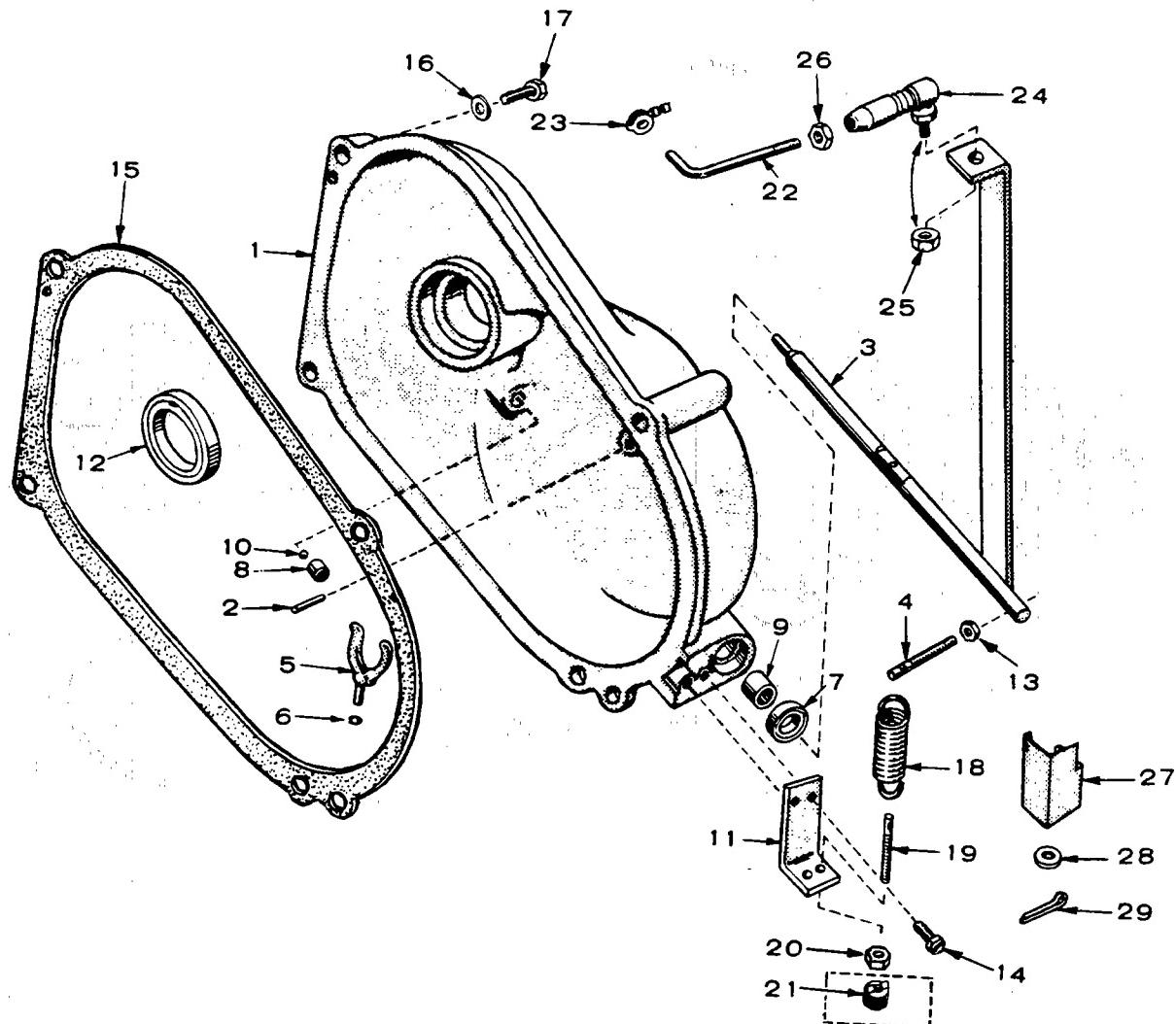
\* - Parts Included in Cylinder Block Assembly.

# Oil System



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	102-0018	1	Gasket, Oil Base or Pan Mounting	9	850-0040	2	Washer, Lock - Spring (1/4") - Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)
2	102-0439	1	Keys 1,2,3,4,6,8,9,10	10	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1") - Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)
	102-0452	1	Units with Oil Base Heater - Keys 1,2,3,4,6,8,9,10	11	120-0161	1	Kit, Gasket - Oil Pump - Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)
3	505-0110	1	Plug, Oil Drain (3/8") - Keys 1,2,3,4,6,8,9,10	12	850-0050	6	Washer, Lock - Spring (3/8") - Keys 1,2,3,4,6,8,9,10
4	120-0012	1	Plunger, Oil By-Pass - Keys 4,5,6,7,8,9 (Also Key 3, 24 Volt Output - Begin Spec J)	13	102-0455	3	Screw, Cap - Hex Head - Key 1,2,3,4,6,8,9,10
5	120-0140	1	Spring, Oil By-Pass - Keys 4,5,6,7,8,9 (Also Key 3, 24 Volt Output - Begin Spec J)	14	800-0053	3	3/8-16 x 1-1/4"
6	505-0274	1	Plug, Countersunk, Hex (1/8") Oil By-Pass - Keys 4,5,6,7,8,9 (Also Key 3, 24 Volt Output - Begin Spec J)	15	102-0319	1	3/8-16 x 1-3/4"
7			Cup, Oil Pump Intake (Includes Cup, Pipe and Screen)	16	505-0054	1	Pan, Oil - Keys 4, 5, and 7
	120-0571	1	Key 3 (24 Volt Output) - Begin Spec J	17	526-0127	3	Plug, Oil Drain (1/4") Keys 5 and 7
	120-0571	1	Key 4 through 9 - Begin Spec F	18	102-0455	3	Washer, Flat (13/32" ID x 25/32" OD x 1/8" Thk) - Keys 5 and 7
	120-0389	1	Key 4 through 9 - Specs A through E	19	850-0050	6	Washer, Lock - Spring (3/8") (NOTE: Keys 5 and 7 only uses 3)
8			Pump Assembly, Oil	17	850-0048	3	Washer, Lock Hi-Collar - Oil Pan (3/8") - Keys 5 and 7
	120-0394	1	Key 3 (24 Volt Output) - Begin Spec J	18	806-0027	6	Screw, Cap - Counter Bore (3/8-16 x 3/4") Keys 5 and 7
	120-0394	1	Keys 4 through 9 - Begin Spec F	19		1	Tube, Crankcase Oil (See Cylinder Block Group)
	120-0200	1	Keys 4 through 9 - Specs A through E				

# Gearcase



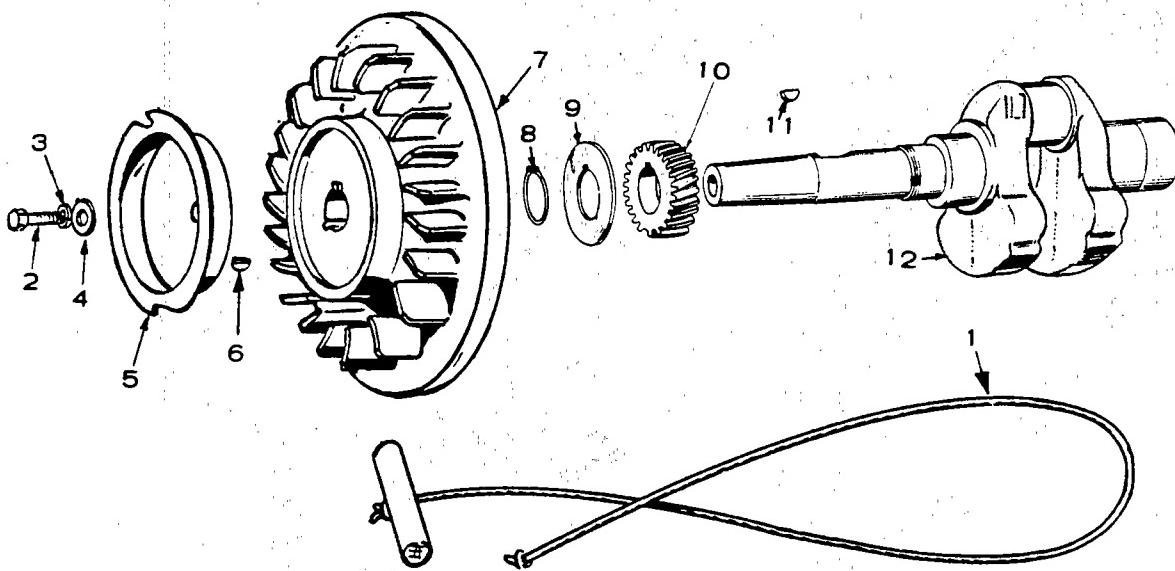
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	103-0222	1	Gearcase Assembly Begin Spec G (Includes Parts Marked *)	18	150-0098	1	Spring, Governor
	103-0141	1	Specs A through F (Includes Parts Marked †)	19	150-0213	1	Stud, Governor Adjusting
2	516-0117	1	*†Pin, Roll (3/16 x 3/16")	20	870-0131	1	Nut, Hex W/ET (#10-32) - Key 1,2,4,5,6,7,8,9,10
3	150-0789	1	* Arm and Shaft, Governor	21	150-0033	1	Nut, Governor Adjusting - Key 3
	150-0575	1	† Specs A through F	22			Link, Governor Arm to Carburetor
4	150-0177	1	*†Stud, Sensitivity Adjustment	150-0786		1	Begin Spec G
5	150-0620	1	*†Yoke (Includes Retainer Ring)	150-0578		1	Specs A through F
6	518-0129	1	*†Ring, Yoke Retainer	23	518-0004	1	Clip, Governor Link
7	509-0008	1	*†Seal, Oil	24	150-0974	1	Joint, Ball
8	510-0008	1	*†Bearing, Shaft - Lower	25	870-0131	1	Nut, Hex W/ET (#10-32)
9	510-0013	1	*†Bearing, Shaft - Upper	26	870-0053	1	Nut, Hex (#10-32)
10	510-0014	1	*†Ball, Thrust	27	150-0198	1	Cover, Governor Spring - Specs A through F
11	150-0156	1	*†Bracket, Governor Spring	28	150-0140	1	*Washer, Governor Yoke - Spec A Only
12	509-0012	1	*†Seal, Oil	29	516-0036	1	*Pin, Cotter - Governor Yoke - Spec A Only (1/16 x 3/8")
13	870-0053	1	*†Nut, Hex (#10-32)				
14	815-0391	1	*†Screw, Cap - Hex Head - Slotted (#10-32 x 1/2")				
15	103-0013	1	Gasket, Gearcase Mounting				
16	850-0045	4	Washer, Lock - Spring (5/16")				
17			Screw, Cap - Hex Head				
	110-0284	2	(Special)				
	800-0034	2	5/16-18 x 2-1/4"				

\* - Parts included in 103-0222 Gearcase Assembly.

† - Parts included in 103-0141 Gearcase Assembly.

• - During Spec A the hole for cotter pin was replaced by a retaining ring groove.

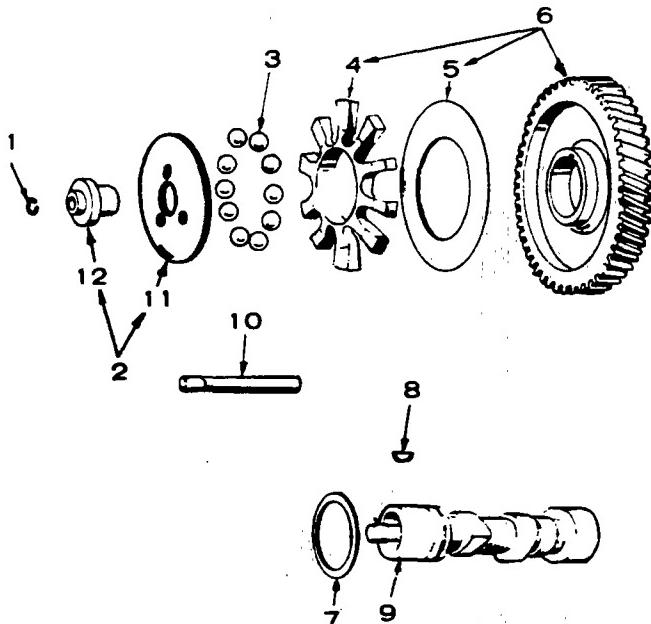
## Crankshaft and Flywheel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	192-0023	1	Rope and Handle	7	160-0459	1	Flywheel (Includes Magnets)
2	104-0237	1	Screw, Cap - Hex Head (Special)				Includes 2-815-0193 Screws (Keys 1,2,3,10)
3	850-0055	1	Washer, Lock - Spring (7/16")				Includes 2-815-0259 Screws
4		1	Washer, Flat (15/32 ID x 1-1/4" OD)				(Keys 4 through 9)
	526-0017	1	1/4" Thk - Keys 1,2,3,6,8, 9,10	8	518-0012	1	Ring, Lock (1-3/16")
	526-0141	1	1/8" Thk - Keys 4,5,7	9	104-0050	1	Washer, Crankshaft Gear
5	192-0261	1	Sheave, Rope	10	104-0048	1	Gear, Crankshaft
6	515-0113	1	*Key, Flywheel (#9)	11	515-0001	1	Key, Crankshaft Gear (1/2 x 1/8")
				12	104-1276	1	Crankshaft (Includes Parts Marked *)

\* - Parts included in 104-1276 Crankshaft Kit.

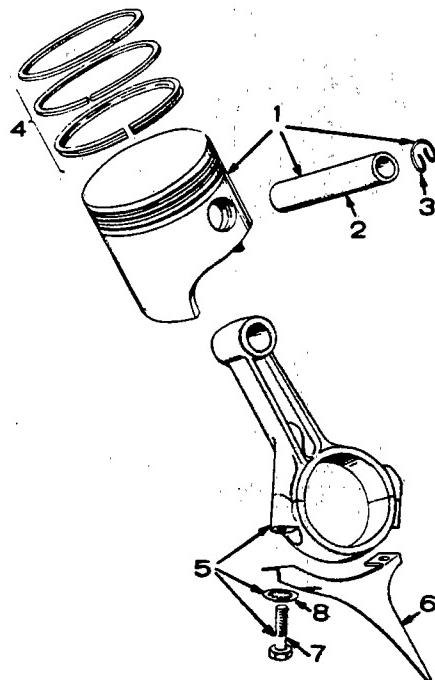
# Camshaft



CT-1046

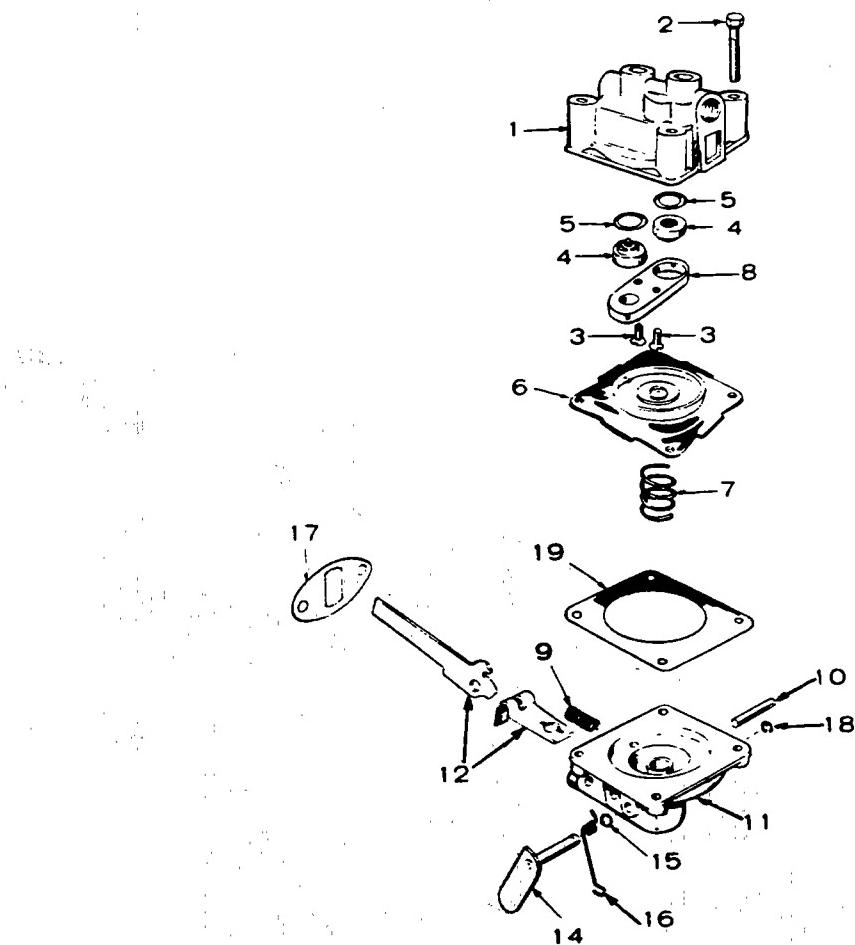
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-0078	1	Ring, Lock	6	105-0377	1	Gear Assembly (Includes Spacer and Plate)
2	150-1695	1	Cup, Governor (Retained Hub) (Kit) Early Models (Includes Parts Marked +)	7	105-0004	1	Washer, Thrust
3			Ball, Fly - Governor	8	S15-0001	1	Key, Woodruff - Gear (1/2 x 1/8")
	510-0015	10	Keys 1,2,3,10 (9/16")	9	105-0139	1	Camshaft (Includes Center Pin)
	510-0015	5	Keys 4 through 9 (9/16")	10	150-0075	1	Pin, Center
4			*Spacer, Governor Flyball	11	150-1520	1	+Cup, Governor - Late Models
	150-1257	1	Begin Serial Number 370369 During Spec L	12	150-1519	1	+Hub, Governor Cup - Late Models
	150-1257	1	Spec A through Serial Number 668253 During Spec G				
5			*Plate, Governor Flyball				* - Spacer and plate not sold separately for units manufactured between Serial Number 668253 During Spec G and Serial Number 370369 During Spec - Order Gear Assembly complete.
	150-0077	1	Begin Serial Number 370369 During Spec L				+ - Parts included in 150-1695 Governor Cup Kit.
	150-0077	1	Spec A through Serial Number 668253 During Spec G				

## Piston and Rod



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	112-0127	1	Piston and Pin Assembly Standard	5	114-0095	1	Rod, Connecting Standard
	112-0127-05	1	.005" Oversize		114-0095-10	1	.010" Undersize
	112-0127-10	1	.010" Oversize		114-0095-20	1	.020" Undersize
	112-0127-20	1	.020" Oversize		114-0095-30	1	.030" Undersize
	112-0127-30	1	.030" Oversize	6	114-0089	1	Dipper
	112-0127-40	1	.040" Oversize		114-0089	1	Keys 1,2,10
2	112-0063	1	Pin, Piston		114-0089	1	Key 3 (24 Volt Output) - Spec A through H
3	112-0013	2	Clip, Piston Pin		114-0089	1	Key 3 (32 Volt Output)
4			Ring Set		7	114-0023	2
	113-0175	1	Standard		8	854-0014	2
	113-0175-10	1	.010" Oversize				Screw, Rod Cap (Special)
	113-0175-20	1	.020" Oversize				Washer, Lock (I.T. Shakeproof) (1/4")
	113-0175-30	1	.030" Oversize				
	113-0175-40	1	.040" Oversize				

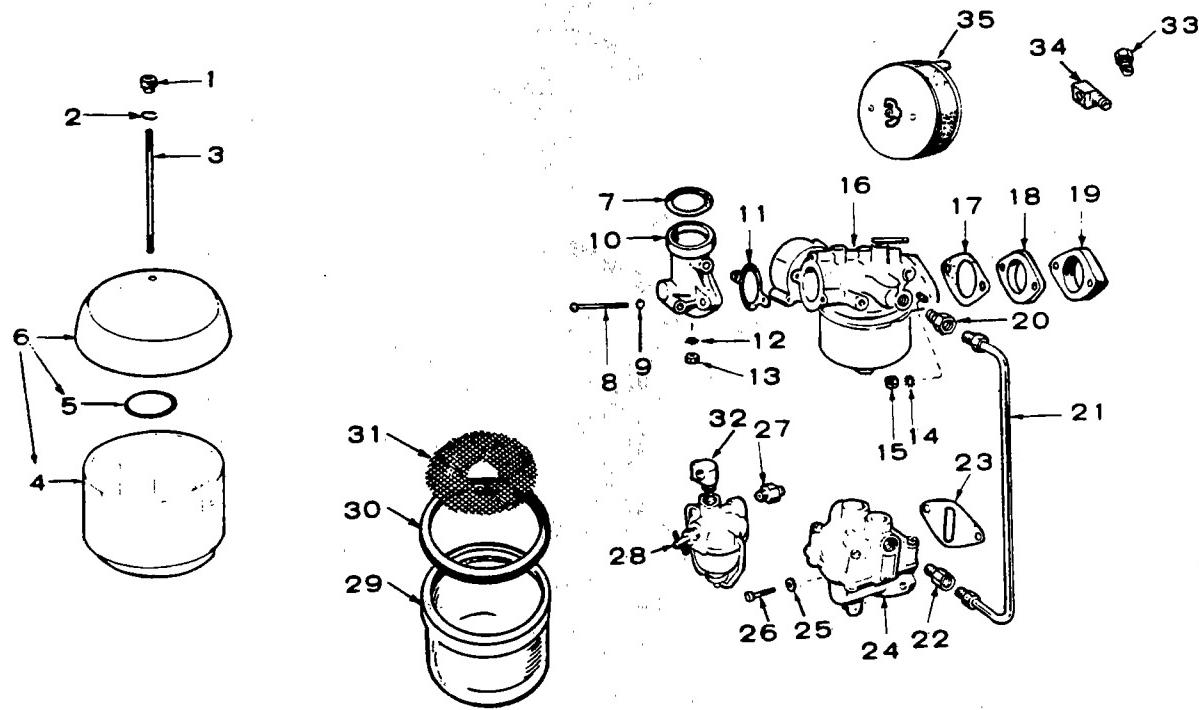
## Fuel Pump Parts



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	149-0693	1	Pump, Fuel - Complete	9	149-0675	1	*Spring
	149-0526	1	Kit, Repair (Includes Parts Marked *)	10	516-0113	1	Pin, Rocker Arm (.177 x .859)
1	815-0148	1	Body (Not Sold Separately)	11		1	Body (Not Sold Separately)
2	815-0148	4	Screw, Cap - Hex Head (#8-32 x 7/8")	12	149-0710	1	Link and Arm, Rocker
3	815-0147	2	Screw, Phillips Self Tapping (#6-32 x 5/8")	14	149-0555	1	Lever, Primer
4	149-0096	2	*Valve and Cage	15	509-0065	2	Seal, "O" Ring
5	149-0095	2	*Gasket, Valve	16	149-0404	1	Spring, Primer Lever
6	149-0582	1	*Diaphragm Assembly	17	149-0003	1	*Gasket, Pump Mounting
7	149-0672	1	*Spring	18	518-0129	1	Ring, Retainer
8	149-0539	1	Retainer, Valve Cage	19	149-0858	1	+*Gasket, Diaphragm - Lower Side

\* - Parts Included in 149-0526 Repair Kit.  
† - Used on some models to prevent air lock.

## Fuel System (Gasoline)

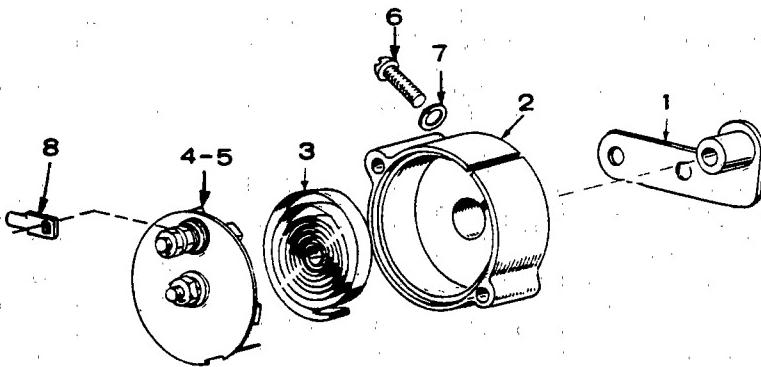


## Fuel System (Gasoline)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	140-0587	1	Knob, Air Cleaner Hold-Down - Begin Serial Number 566319 During Spec E	17	141-0078	1	Gasket, Carburetor Mounting
2	850-0030	1	Washer, Lock - Spring (1/4") - Begin Serial Number 566319 During Spec E	18	145-0469	1	Plate, Carburetor Mounting
3	520-0538	1	Stud, Air Cleaner to Adapter - Begin Serial Number 566319 During Spec E (3/16 x 6-15/16")	19	145-0110	1	Spacer, Carburetor Mounting
4	140-0469	1	Cup, Air Cleaner - Begin Serial Number 566319 During Spec E (Includes Seal)	20	502-0003	1	Connector, Inverted Male - Carburetor Inlet
5	509-0135	1	Seal, "O" Ring - Begin Serial Number 566319 During Spec E	21	149-1110	1	Line, Fuel Begin Spec K
6	140-0441	1	Air Cleaner - Complete Begin Serial Number 566319 During Spec E	149-0561		1	Specs A through J
7	140-0443	1	Gasket, Air Cleaner Mounting - Begin Serial Number 566319 During Spec E	22	502-0003	1	Connector, Inverted Male Pump Outlet
8	812-0086	2	Screw, Machine - Round Head Begin Spec K (#8-32 x 1-1/4")	23	149-0003	1	Gasket, Pump Mounting
	812-0082	2	Begin Serial Number 566319 During Spec E through Spec J (8-32 x 3/4")	24	149-1784	1	Pump, Fuel - Includes Mounting
9	850-0025	2	Washer, Lock - Spring (#8) - Begin Serial Number 566319 During Spec E	25	526-0063	2	Gasket (See 149-0693 Group for Components)
10	140-0446	1	Adapter, Air Cleaner Keys 1,2,4 through 10	26	806-0008	2	Washer, Flat - Copper
	140-1269	1	Key 3	27	502-0082	1	(17/64" ID x 7/16" OD x 1/32" Thk)
11	145-0111	1	Gasket, Adapter to Carburetor	28	149-0079	1	Screw, Machine - Counterbore Head (1/4-20 x 5/8")
12	854-0010	1	Washer, Lock - IT (#10) - Begin Serial Number 566319 During Spec E	29	149-0150	1	Nipple, Hex (1/8-1/8")
13	870-0053	2	Nut, Hex (#10-32) - Begin Serial Number 566319 During Spec E	30	149-0149	1	Filter, Fuel (Includes Parts Marked *)
14	853-0013	2	Washer, Lock - ET (1/4")	31	149-0202	1	*Bowl, Fuel Filter
15	115-0025	2	Nut, Hex (Special)	32	502-0440	1	*Gasket, Fuel Filter
16			Carburetor (Gasoline) (Includes Mounting Gasket) (See Separate Group for Components)	33	502-0003	1	*Screen, Fuel Filter
	146-0296	1	Keys 1,3,4,5,6,7,10 (Manual Choke) - For Components See 146-0093	34	502-0002	1	Elbow, 45° Fuel Filter Inlet - Begin Spec N (1/4")
	146-0297	1	Keys 2,8,9 (Electric Choke) For Components See 146-0093	34	502-0020	1	Connector, Inverted Male Fuel Filter Inlet - Specs G through M
				35	140-0369	1	Elbow, Inverted Male - Fuel Filter Inlet - Specs A through F (1/4")
					140-0408	1	Elbow, Street - 90° - Keys 3,4,8,9
							Air Cleaner - Spec A through Serial Number 566318 During Spec E (Includes Gasket and Element)
							Element

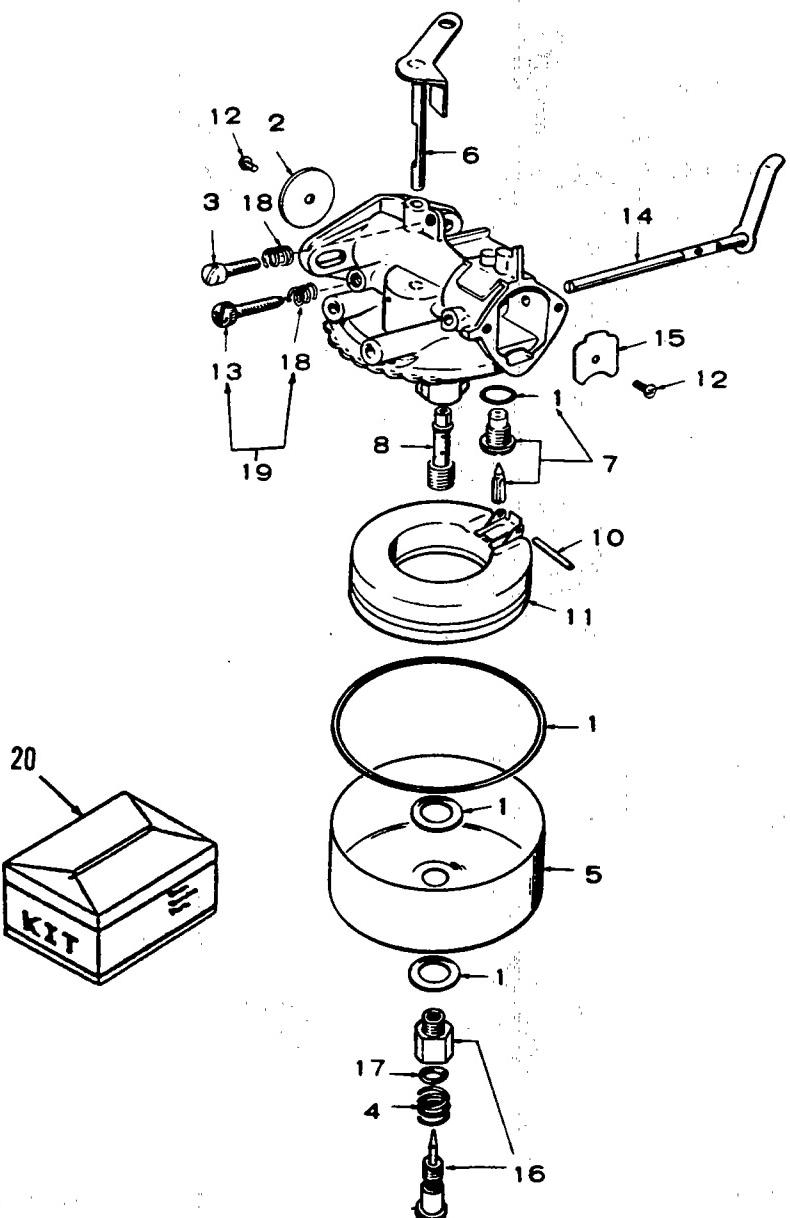
\* - Parts Included in 149-0079 Filter.

# Electric Choke - Keys 2,8,9



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1 153-0420		1	Adapter, Choke to Carburetor Begin Spec K	5 153-0115		1	Element & Cover, Choke (Includes 32 Volt Element) -
153-0196		1	Spec A through J				Key 8,9 Spec A through G
2 153-0058		1	Bracket, Housing	6 815-0110		1	Screw (#10-32 x 7/8") -
3 153-0017		1	Element, Bimetal	7 850-0030		1	Choke Mounting
4 153-0114		1	Element & Cover, Choke (Includes 24 Volt Element) - Key 2 (Also Key 8, 9 Begin Spec H)	8 332-0527		1	Washer (#10), Lock Terminal, Wire

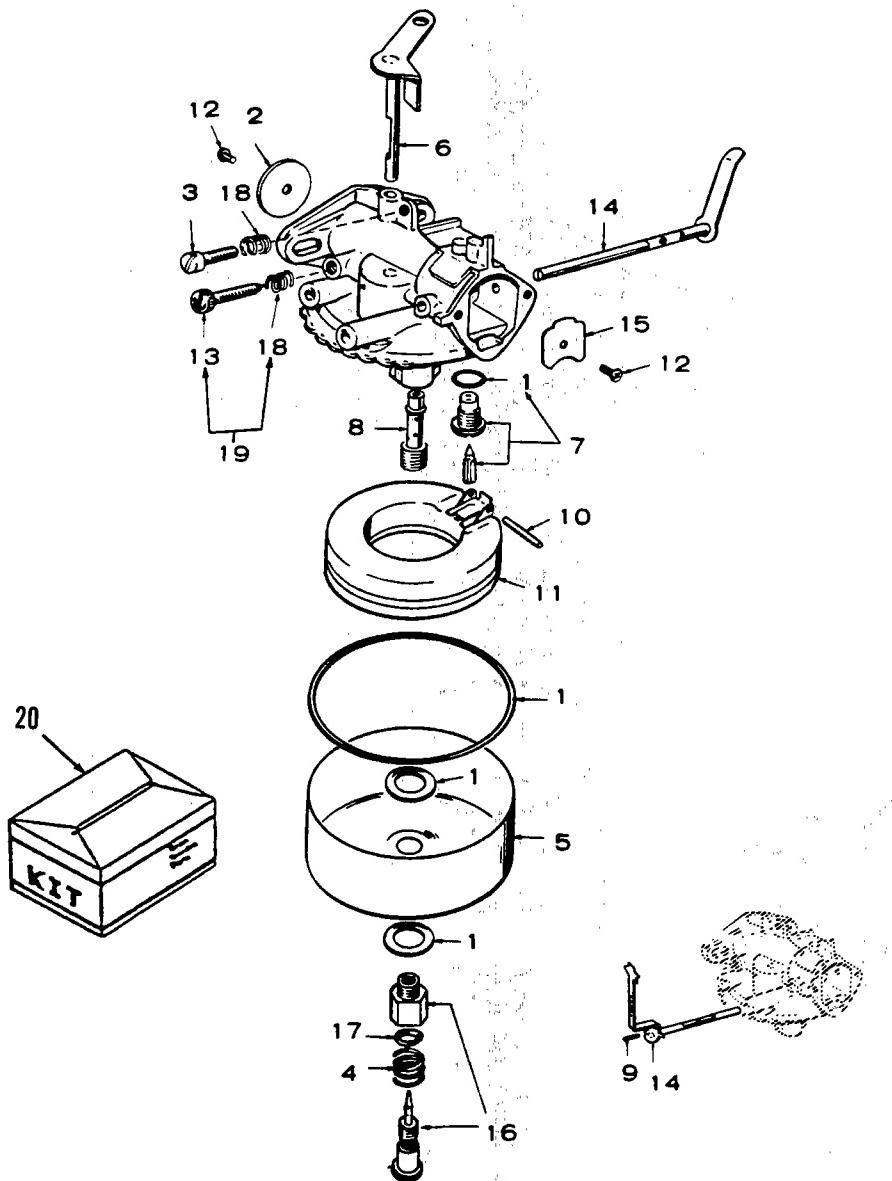
**Carburetor Parts (Gasoline)**  
**Specs A through J**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Carburetor, Complete		14	146-0107	1 Shaft Assembly, Choke - Keys 2,8
	146-0093	1	Keys 2,8 (Electric Choke)		15	146-0104	1 Valve, Choke - Keys 2,8
	146-0123	1	Kit, Repair (Includes Parts Marked *)		16	146-0102	1 *Needle Assembly, Power
1	146-0124	1	*Kit, Gasket		17	146-0120	1 Seal, "O" Ring - High Speed Needle
2	146-0119	1	Valve, Throttle		18	146-0186	1 +\$Spring, Stop Screw and Idle Screw
3	146-0122	1	+Screw, Throttle Stop		19	146-0209	1 Needle Assembly, Idle Adjust (Package) (Includes Parts Marked \$)
4	146-0117	1	Spring, High Speed Needle		20	146-0261	1 Kit, Throttle Adjusting Screw (Includes Parts Marked +)
5	146-0118	1	Bowl, Fuel				
6	146-0112	1	Shaft Assembly, Throttle				
7	146-0145	1	*Float Valve, Seat and Gasket Assembly				
8	146-0113	1	Nozzle				
10	146-0111	1	*Shaft, Float				
11	146-0110	1	Float Assembly				
12	146-0109	2	Screw and Washer				
13	146-0116	1	\$*Needle, Idle				

\* - Parts Included in 146-0123 Repair Kit.  
 \$ - Parts Included in 146-0209 Needle Assembly (Package).  
 + - Parts Included in 146-0261 Kit.

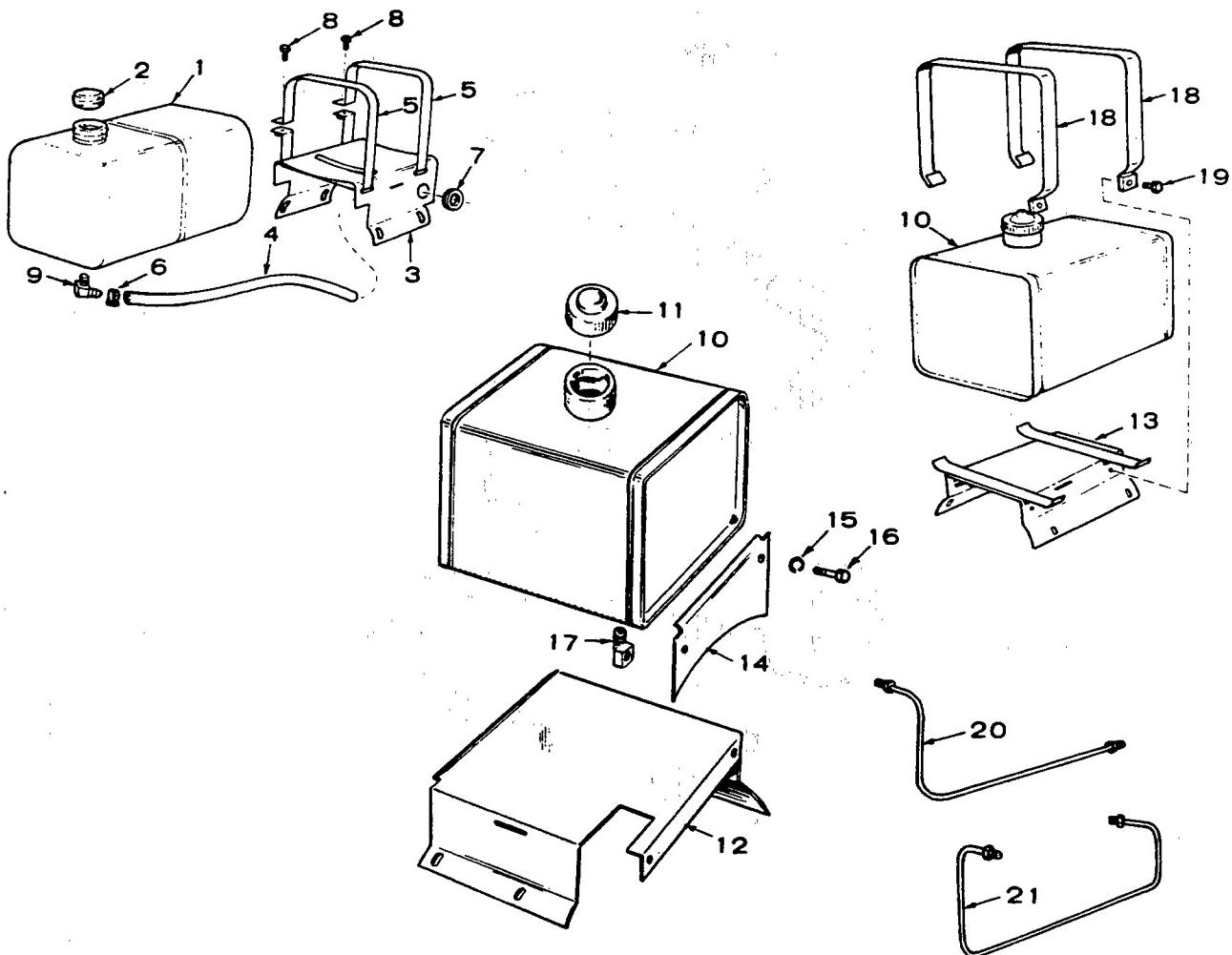
**Carburetor Parts (Gasoline)**  
**Begin Spec K**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
146-0092	1	1	Carburetor, Complete Keys 1,3,4,5,6,7,10 (Manual Choke)	14	146-0108	1	Shaft Assembly, Choke Keys 1,3,4,5,6,7,10
146-0093	1	1	Keys 2,8,9 (Electric Choke)	146-0107	1	1	Keys 2,8,9
146-0123	1	1	Kit, Repair (Includes Parts Marked *)	15	146-0105	1	Valve, Choke Keys 1,3,4,5,6,7,10,
1 146-0124	1	1	*Kit, Gasket	146-0104	1	1	Keys 2,8,9
2 146-0119	1	1	Valve, Throttle	16	146-0102	1	*Needle Assembly, Power
3 146-0122	1	1	+Screw, Throttle Stop	17	146-0120	1	Seal, "O" Ring - High Speed
4 146-0117	1	1	Spring, High Speed Needle	18	146-0186	1	Needle
5 146-0118	1	1	Bowl, Fuel	19	146-0209	1	+\$Spring, Stop Screw and Idle
6 146-0112	1	1	Shaft Assembly, Throttle				Screw
7 146-0145	1	1	*Float Valve, Seat and Gasket Assembly				Needle Assembly, Idle Adjust
8 146-0113	1	1	Nozzle				(Package) (Includes Parts Marked \$)
9 146-0114	1	1	Spring, Choke Stop - Keys 1, 3,4,5,6,7,10	20	146-0261	1	Kit, Throttle Adjusting Screw (Includes Parts Marked +)
10 146-0111	1	1	*Shaft, Float				
11 146-0110	1	1	Float Assembly				
12 146-0109	2	2	Screw and Washer				
13 146-0116	1	1	\$*Needle, Idle				

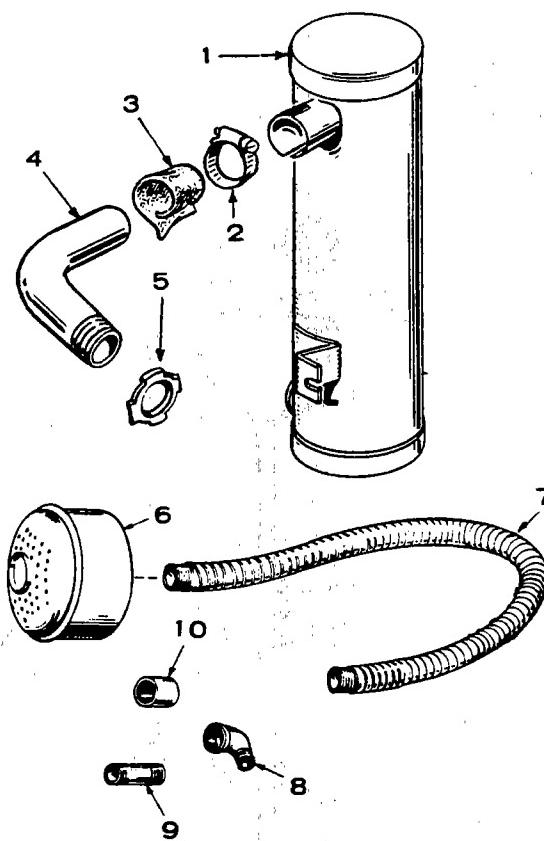
\* - Parts Included in 146-0123 Repair Kit.  
\$ - Parts Included in 146-0209 Needle Assembly  
(Package).  
+ - Parts Included in 146-0261 Kit.

**Fuel Tank - Keys 1,4,5,6,7,10**



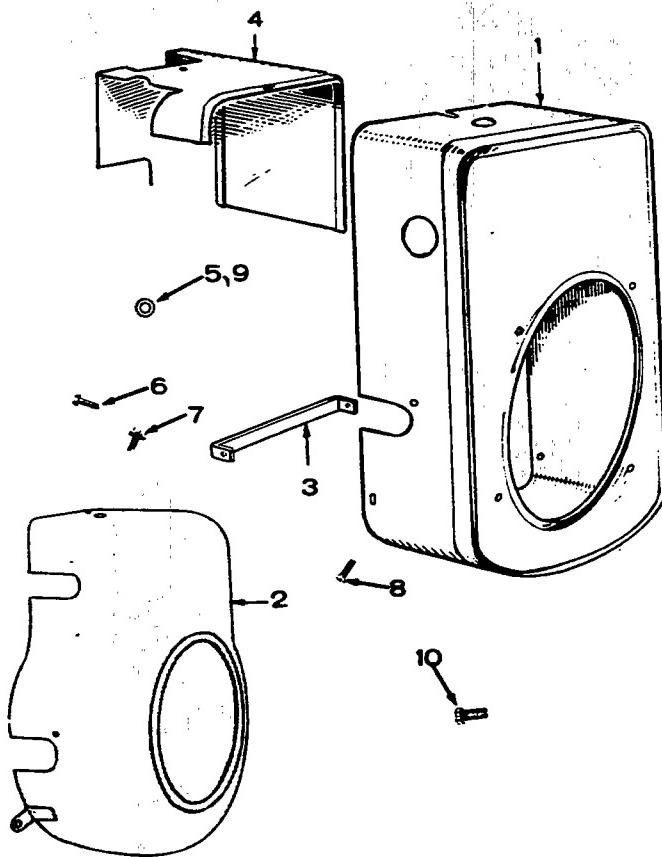
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	159-1027	1	Tank, Fuel - Begin Spec N (1.5 gal.)	12	159-0717	1	Bracket, Tank Mounting - Specs G through M
2	159-1028	1	Cap, Fuel Tank - Begin Spec N	13	159-0485	1	Bracket, Tank Mounting - Specs A through F
3	159-1034	1	Bracket, Fuel Tank Mounting - Begin Spec N	14	159-0718	1	Bracket, Tank Hold-down - Specs G through M
4	503-0754	1	Hose, Tank to Filter - Begin Spec N	15	850-0040	2	Washer, Lock - Spring (1/4") Specs G through M
5	159-1035	2	Band, Fuel Tank - Begin Spec N	16	800-0005	2	Screw, Cap - Hex Head (1/4-20 x 3/4") - Specs G through M
6	503-0685	2	Clamp, Hose - Begin Spec N (7/32 to 5/8")	17	502-0002	1	Elbow, Inverted Male (1/4")
7	508-0001	1	Grommet, Rubber - Begin Spec N (3/4 ID x 1-9/32" OD)	18	159-0487	2	Band, Tank Mounting - Specs A through F
8	821-0013	1	Screw, Cap - Hex Head Locking (1/4-20 x 1") - Begin Spec N	19	815-0208	2	Screw, Cap - Hex Head (1/4-20 x 1") - Specs A through F
9	502-0313	1	Elbow, Adapter - Begin Spec N (1/4")	20	159-0728	1	Line, Fuel - Specs G through M
10	159-0234	1	Tank, Fuel (1.8 gal) - Specs A through M	21	159-0505	1	Line, Fuel - Specs A through F
11	159-0007	1	Cap, Fuel Tank - Specs A through M				

## Exhaust System



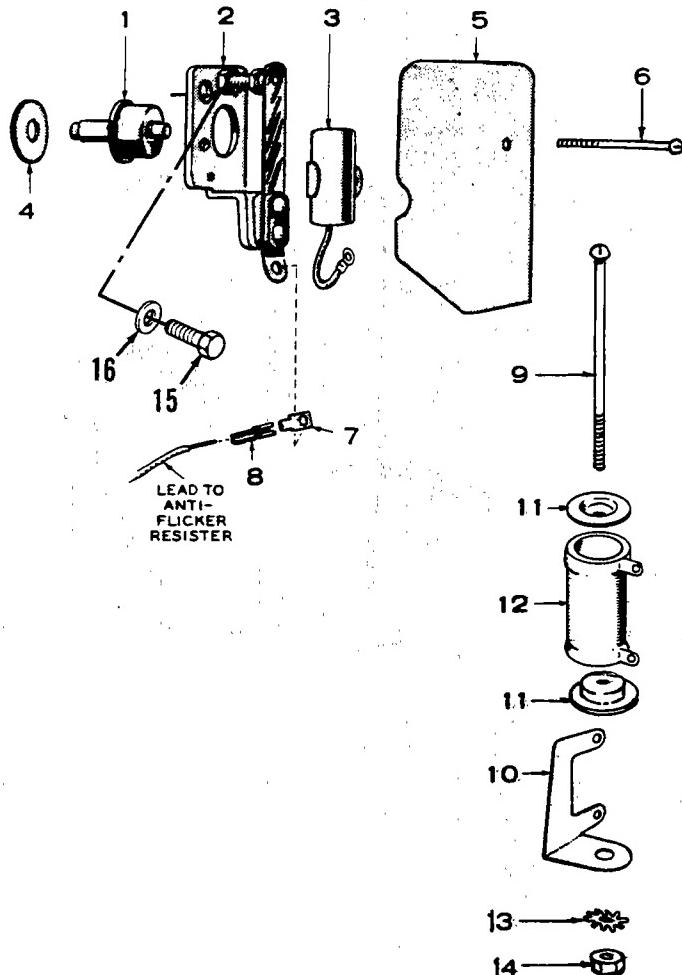
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	155-0692	1	Muffler, Exhaust - Begin Spec G	7			Tube, Exhaust (Flexible) - Keys 2,3,8,9
2	503-0189	1	Clamp, Muffler - Begin Spec G	155-0727		1	Begin Spec G (1" x 36")
3	895-0096	1	Asbestos Strip - Begin Spec G	155-0490		1	Specs A through F (3/4" x 36")
4	155-0691	1	Tube, Exhaust - Begin Spec G	8	505-0051	1	Elbow, Street (3/4" x 90°) - Specs A through F
5	331-0038	1	Nut, Lock - Chase (Special)	9	505-0332	1	Nipple, Pipe (3/4" x 3") - Specs A through F
6			Muffler, Exhaust - Specs A through F	10	505-0029	1	Coupling, Pipe (3/4") - Keys 2,3,8,9 - Specs A through F
	155-0488	1	Keys 1,2,3,10				
	155-0487	1	Keys 4,5,6,7,8,9				

# Exploded View Drawing - Air Housing



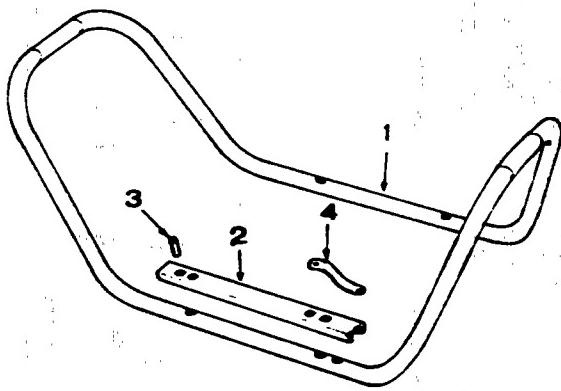
REF. NO.	PART NO.	QTY USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY USED	PART DESCRIPTION
1	134-1016 134-1698	1 1	Housing, Blower Begin Spec G Begin Spec P	5	856-0003	2	Washer, Lock - Blower Housing - IET (#10)
2	134-0519	1	Housing, Blower - Specs A through F	6	815-0181	2	Screw, Hex Head - Blower Housing - IET (#10-32 x 1/2")
3	134-1014 134-1697	1 1	Bracket, Mounting - Blower Housing Begin Spec G Begin Spec P	7	815-0290	1	Screw, Hex Washer Head - Blower Housing (1/4-20 x 5/8")
4	134-1534 134-0518	1 1	Shroud, Cylinder Air Begin Spec G Specs A through F	8	815-0333	2	Screw, Round Head Machine - Blower Bracket (#10-32 x 1/2")
				9	856-0003	2	Washer, Lock - Blower Bracket - IET (#10)
				10	815-0261	2	Screw, Hex Head - Cylinder Air Shroud (1/4-20 x 1/2")

# Anti-Flicker - Keys 1,2



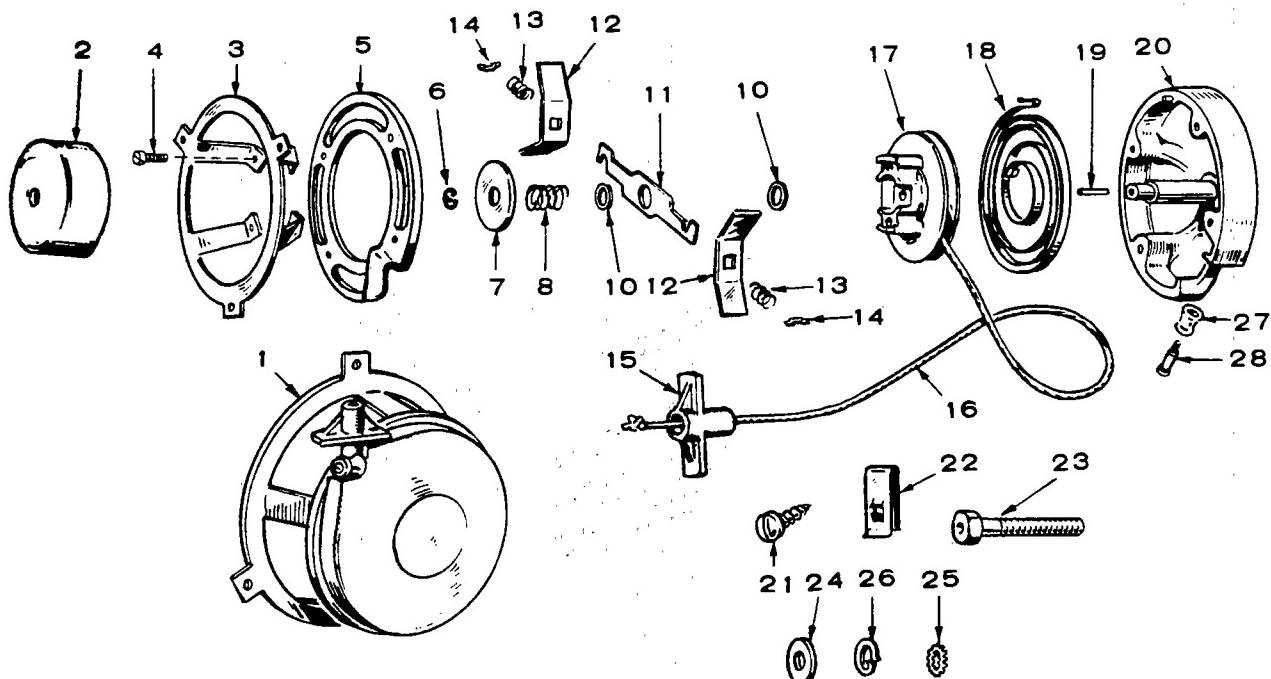
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	160-0447	1	Plunger Assembly (Includes Plunger, Guide and Diaphragm)	304-0047		1	For 50 Hertz Sets Key 1 (120 Volt Output) - Begin Spec K Key 1 (240 Volt Output) - Begin Spec K Key 1 - Specs G through J Key 1 - Specs A through F Key 2 - Begin Spec G Key 2 - Specs A through F
2	160-0478	1	Point Set	304-0011		1	
3	312-0019	1	Condenser (0.5 Mfd.)	304-0120		1	
4	160-0461	1	Gasket, Plunger Guide	304-0315		1	
5	166-0254	1	Cover, Contact Points	304-0120		1	
6	815-0187	1	Screw, Machine - Round Head (#10-32 x 1-1/4")	304-0315		1	
7	332-0527	1	Terminal, Solderless (Male)	304-0315		1	
8	332-0529	1	Terminal, Solderless (Female)	13	853-0008	1	
9	813-0112	1	Screw, Machine - Round Head (#10-32 x 2-1/2")	14	870-0053	1	
10	304-0304	1	Bracket, Resistor Mounting	15	800-0003	1	
11	304-0014	2	Washer, Resistor Mounting	16	526-0063	1	
12			Resistor, Fixed (Mounted in Generator)				
			For 60 Hertz Sets Key 1 (120 Volt Output) - Begin Spec K Key 1 (240 Volt Output) - Begin Spec K Key 1 - Specs G through J Key 1 - Specs A through F Key 2 - Begin Spec G Key 2 - Specs A through F				
	304-0047	1					
	304-0011	1					
	304-0168	1					
	304-0321	1					
	304-0168	1					
	304-0321	1					

# Carrying Frame - Keys 5,7



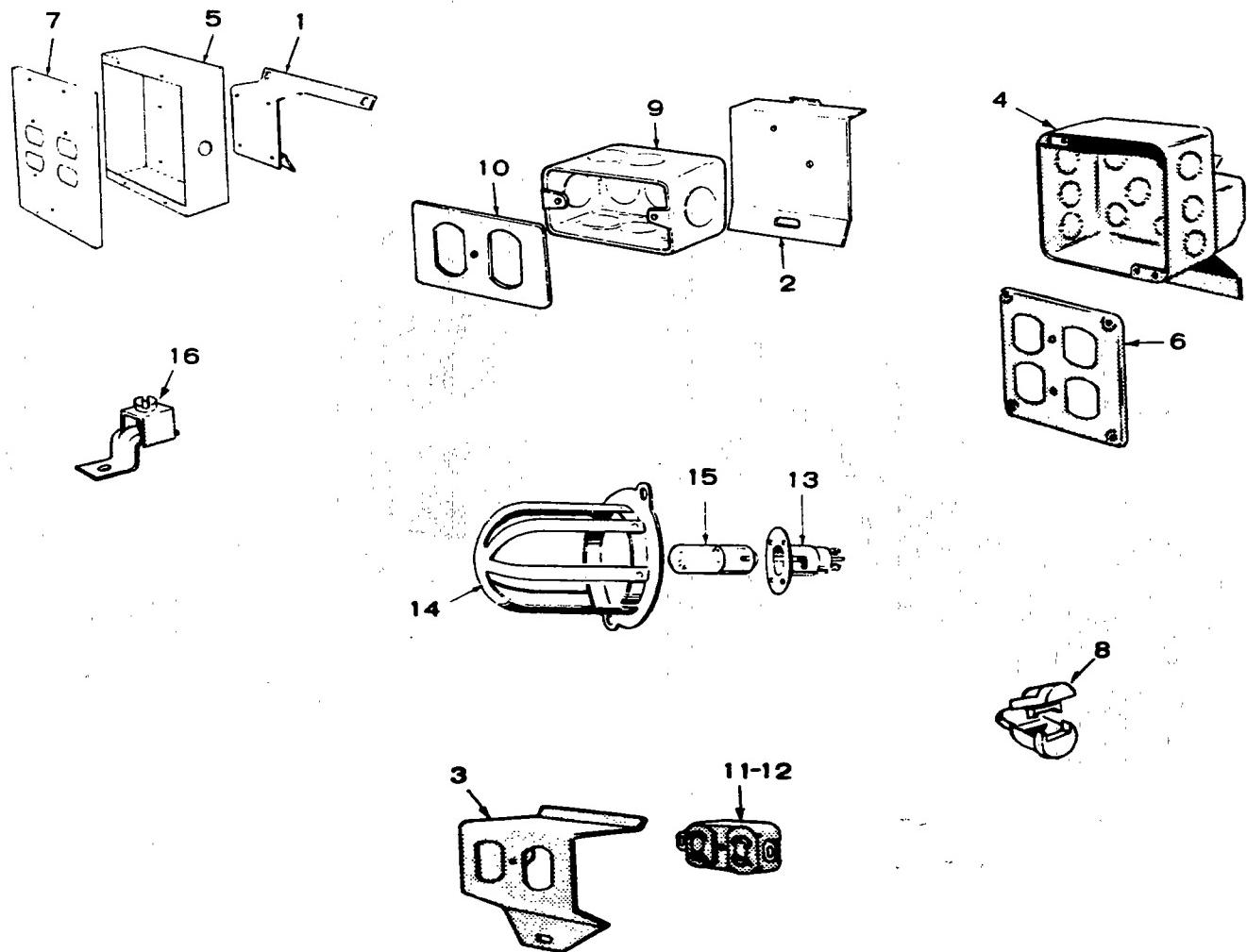
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
403-0744	1	1	Frame Package, Carrying - One Piece Frame (Includes Mounting Cushions, Spacers Channels, Supports and Hardware) - Replaces two piece frames used Specs A through E) (29" Long)	1	403-0743	1	Frame Only, Carrying - one piece - Begin Spec F (29" Long)
				2	402-0170	2	Channel, Engine Mounting - Begin Spec F
				3	402-0171	4	Support, Engine Mounting - Begin Spec F
				4	337-0067	1	Strap, Ground

### Readi-Pull Starter



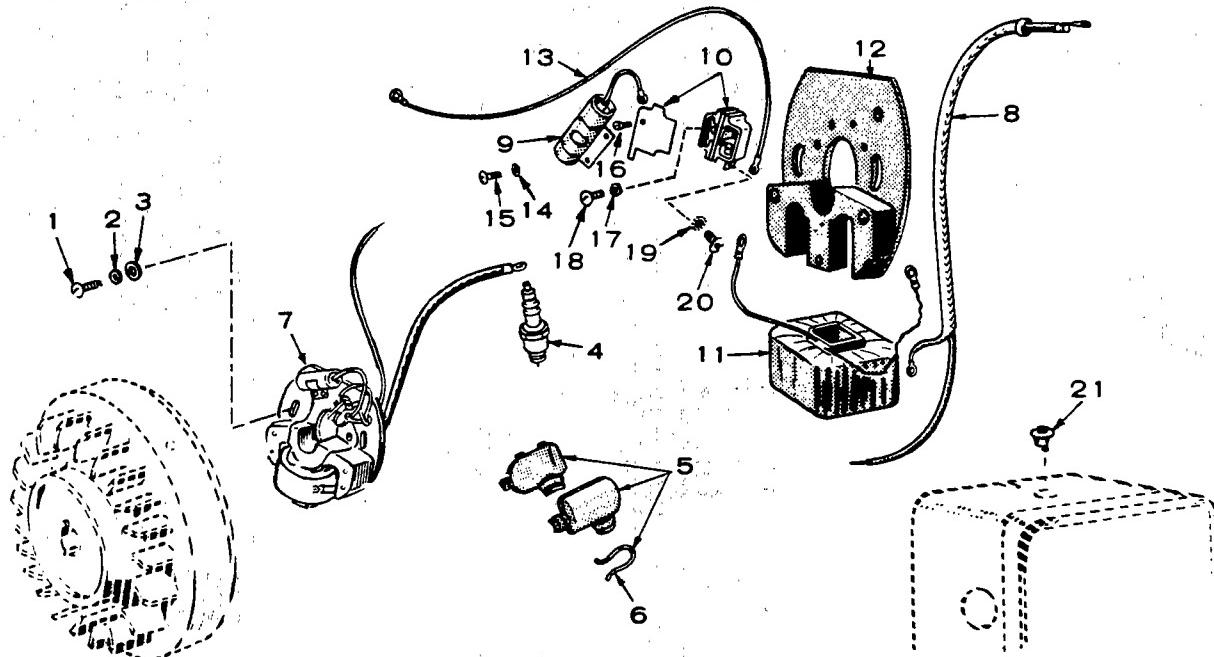
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Starter Kit (Complete) - Includes Cup and Mounting Ring	14	192-0281	2	Plate, Spring Retainer
192-0343	1	1	Begin Spec G (Obsoleted After April 1989)	15	192-0282	1	Handle (Includes Washer)
192-0270	1	1	Spec A through F	16	192-0283	1	Cord Only, Rewind Starter
192-0447	1	1	Begin Spec P	17	192-0284	1	Rotor (Rope Sheave)
2			Cup, Starter Engaging	18	192-0285	1	Spring, Rewind
192-0273	1	1	Spec A through N	19	192-0287	1	Pin, Centering
192-0364	1	1	Beginning Spec P	20	192-0286	1	Cover, Starter
3			Ring, Adapter - Starter to Engine Housing	21	815-0179	4	Screw, Round Head (#10-32 x 3/8") Begin Spec G
192-0341	1	1	Begin Spec G	21	809-0044	3	Screw, Sheet Metal (#10-32 x 1/2") Specs A through F
192-0269	1	1	Spec A through F	22	870-0119	3	Nut, Tinnerman (U-Type) - Spec A through F
4	815-0171	4	Screw, Tap - Pan Head (#10-24 x 5/8")	23	104-0237	1	Screw, Cup Mounting (With Pilot) - Special
5	192-0274	1	Flange, Middle	24	526-0141	1	Washer, Flat - Cup Mounting (15/32 ID x 1-1/4 OD x 1/8" Thk)
6	518-0205	1	Ring, Retainer	25	856-0003	4	Washer - Starter Ring to Engine Housing - Quantity of 3 used - Spec A through F (#10)
7	526-0142	1	Washer, Brake Retainer (1/4 ID x 1-1/2 OD x 1/16" Thk)	26	850-0055	1	Washer, Lock - Cup Mounting
8	192-0275	1	Spring, Brake	27	192-0339	1	Roller, Rope
10	192-0279	2	Washer, Friction	28	192-0340	1	Screw, Roller
11	192-0277	1	Lever, Brake				
12	192-0278	2	Plate, Friction Shoe				
13	192-0280	2	Spring, Friction Shoe				

# Receptacles - Keys 1,4,5,6,7,10



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	301-1870	1	Bracket, Receptacle Box Keys 4,5,6,7,10 - Begin Spec G	11	323-0383	1	Receptacle, Duplex (120 Volt) - Parallel Blades
	301-1372	1	Keys 4,5,6,7 - Specs C through F		323-0383	2	Key 1
2	301-1983	1	Bracket, Receptacle Box - Key 1 - Begin Spec G		323-0383	1	Key 4
3	301-1146	1	Bracket, Receptacle Mounting		323-0383	2	Begin Spec C
	301-1146	1	Key 1 - Specs A through F		323-0383	1	Specs A and B
4	330-0044	1	Box and Bracket, Receptacle - Keys 5 - Specs A and B	12	323-0213	1	Key 5,10
5	330-0028	1	Box, Receptacle - Keys 4,5,6,7,10		323-0213	2	Keys 6,7
	301-1373	1	Begin Spec G		323-0213	1	Receptacle, Duplex (240 Volt) - Tandem Blades
6	330-0042	1	Specs C through F		323-0213	2	Key 1
	330-0042	1	Cover, Receptacle Box	13	322-0021	1	Key 4
7	301-1392	1	Keys 4,5,6,7 - Begin Spec G		323-0213	1	Begin Spec C
					323-0213	2	Specs A and B
8	508-0098	1	Key 5 - Specs A and B	14	322-0022	1	Key 5
			Cover, Receptacle Box - Keys 4,5,6,7 - Specs C through F		322-0022	2	Keys 6,7
9	330-0005	1	Guard, Pilot Light - Keys 4,5,6,7 - Specs C through F	15		1	Receptacle, Pilot Light - Keys 4,5,6,7 - Specs C through F
10	330-0016	1	Bushing, Insulator - Keys 1,4,5,6,7,10		322-0059	1	240 Volt
			Box, Receptacle - Key 1 - Begin Spec G		322-0011	1	120 Volt
			Cover, Receptacle Box - Key 1 - Begin Spec G	16	322-0011	1	Keys 6,7 - Specs C through F
					332-0142	1	Terminal, Solderless - Ground

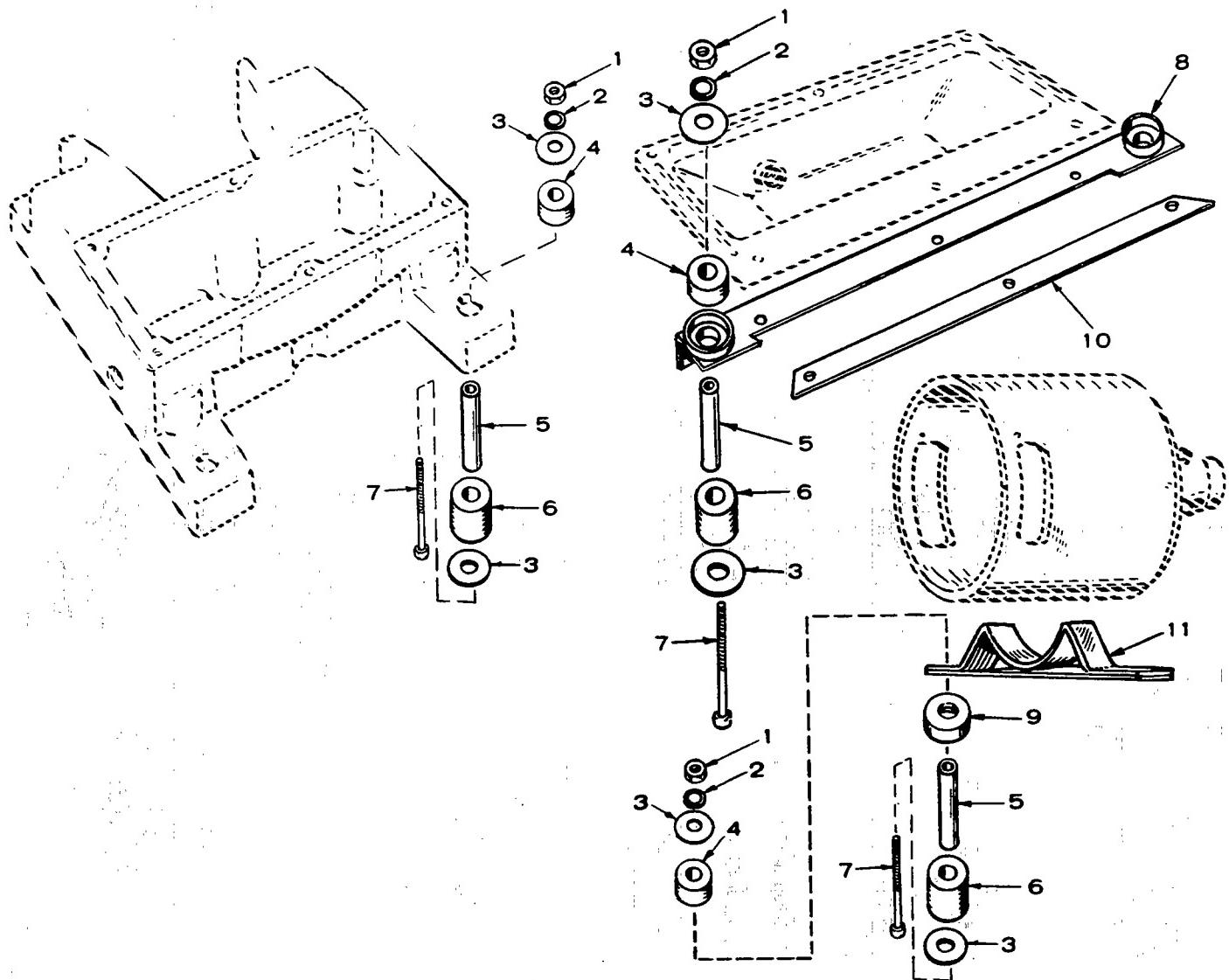
## Ignition System (Magneto)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0018	2	Screw, Self-Locking - Hex Washer Head (1/4-20 x 5/8")	13	336-0345	1	*Lead, Stop
2	526-0214	2	Washer, Flat (17/64" ID x 1/2" OD x 1/16" Thk)	14	854-0007	1	*Washer, Lock - IT (#8)
3	850-0040	2	Washer, Lock - Spring (1/4")	15	812-0075	1	*Screw, Machine - Round Head (#8-32 x 1/4")
4	167-0241	1	Plug, Spark Non-Resistor Type	16	815-0122	1	*†Screw, Cap - Hex Head (#6-32 x 1/2")
	167-0237	1	Resistor Type	17	850-0025	1	*†Washer, Lock - Spring (#8)
5	167-0067	1	Shield and Clamp, Spark Plug	18	812-0077	1	*†Screw, Machine - Round Head (#8-32 x 3/8")
6	167-0064	1	Clamp, Spark Plug Shield	19	853-0003	1	*†Washer, Lock - ET (#6)
7	160-0487	1	Backplate Assembly, Magneto (Includes Parts Marked *)	20	812-0059	1	*†Screw, Machine - Round Head (#6-32 x 1/4")
8	167-1272	1	*Cable, Spark Plug	21			Switch, Stop
9	312-0033	1	*Condenser		313-0018	1	Keys 1,4,5,6,7,10
10	160-0540	1	*Point Set (Includes Parts Marked †)		313-0034	1	Key 3
11	160-0155	1	*Coil				
12	160-0454	1	*Backplate and Poleshoe				

\* - Parts Included in 160-0487 Backplate Assembly.  
† - Parts Included in 160-0540 Point Set.

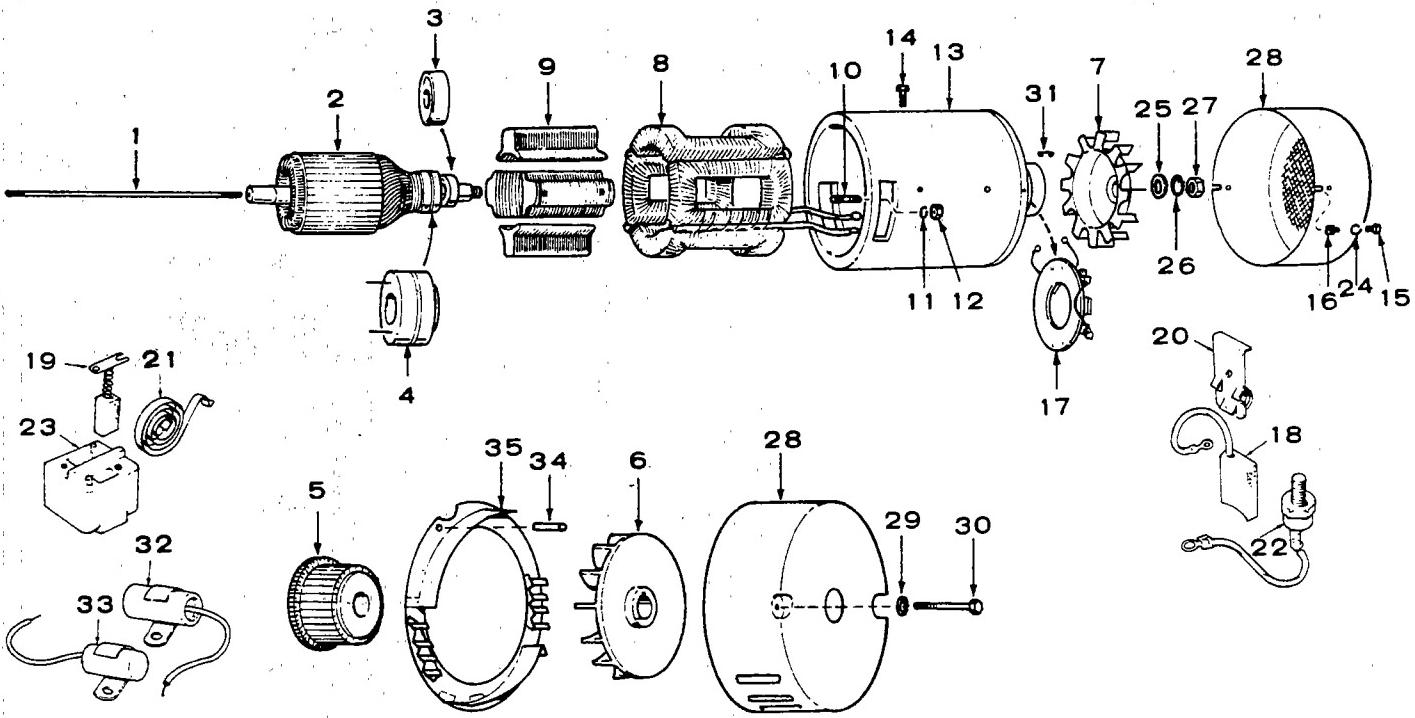
### Mounting Hardware



REF. NO.	PART NO.	QTY USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY USED	PART DESCRIPTION
	402-0229	4	Cushion Package - Keys 1,2, 3,4,6,8,9,10 (Includes Parts Marked *)	6	402-0045	4	Cushion, Lower
1	862-0015	4	*Nut, Hex (5/16-18)	402-0144	402-0144	2	* Keys 1,2,3,4,6,8,9,10 Keys 5 and 7 (Engine End)
2	850-0046	4	*Washer, Lock - Spring (5/16")	402-0045	2	Keys 5 and 7 (Generator End)	
3	526-0041	8	*Washer, Flat (21/64" ID x 1" OD x 1/16" Thk)	7	816-0114	4	Bolt, Carriage
4	402-0076	4	* Keys 1,2,3,4,6,8,9,10 - Begin Spec F	816-0111	2	* Keys 1,2,3,4,6,8,9,10 (5/16-18 x 4-1/2")	
	402-0044	4	Keys 1,2,3,4,6 - Specs A through E	816-0110	2	Keys 5 and 7 - Engine End (5/16-18 x 3-3/4")	
	402-0076	4	Keys 5 and 7	8	403-0381	1	Keys 5 and 7 - Generator End (5/16-18 x 3-1/2")
5	402-0141	4	Bushing, Cushion Spacing	9	402-0140	2	Bracket, Engine Mounting - Keys 5 and 7
	402-0141	4	* Keys 1,2,3,4,6,8,9,10 - Begin Spec F	10	102-0689	1	Cup, Centering - Keys 5 and 7
	402-0048	4	Keys 1,2,3,4,6,8,9,10 - Specs A through E	11	232-1282	1	Stiffener, Oil Pan - Keys 5 and 7
	402-0142	2	Keys 5 and 7 (Engine End)				Bracket, Generator Mounting - Keys 5 and 7
	402-0141	2	Keys 5 and 7 (Generator End)				

\* - Parts included in 402-0229 Cushion Package.

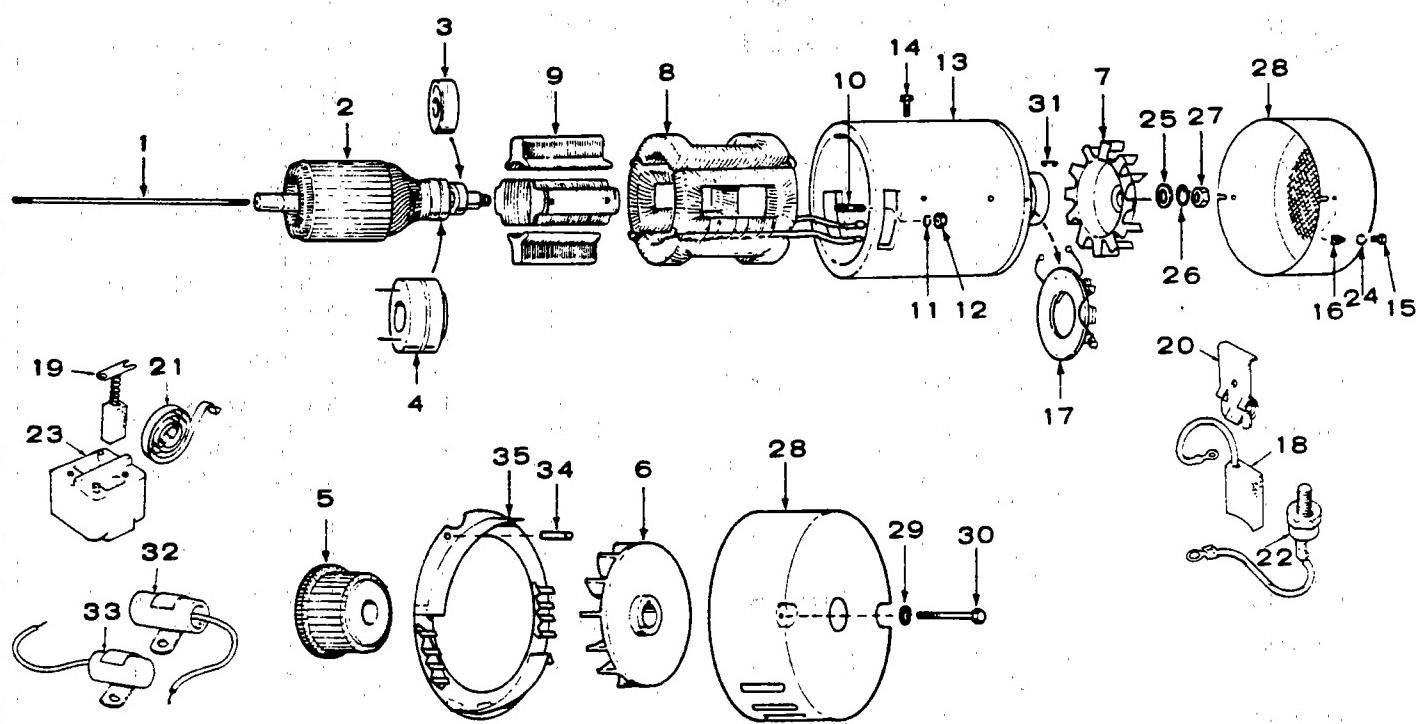
**Generator (Four Pole Type) - Keys 1,2,3,10**



# Generator (Four Pole Type) - Keys 1,2,3,10

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION	
1			Stud, Armature Keys 1,2 Begin Spec G Specs A through F	5	203-0059 203-0053 203-0111	1 @ # §	Commutator Keys 1,2 - Specs A through J Key 3 - Begin Spec K Key 3 (24 Volt) - Specs A through J	
	520-0056	1	Key 3 24 Volt-Begin Spec H	203-0112	1	§	Key 3 (32 Volt) - Specs A through J	
	520-0274	1	24 Volt-Specs A through G	203-0049	1	#	Key 10	
	520-0279	1	32 Volt-Begin Spec G	205-0047	1	Blower, Generator Cooling	Blower, Generator Cooling	
	520-0275	1	32 Volt-Specs A through F	205-0047	1	Keys 1,2 - Specs A through F	Keys 1,2 - Specs A through F	
	520-0279	1	Key 10	205-0047	1	§ Key 3 (24 Volt) - Specs A through G	§ Key 3 (24 Volt) - Specs A through G	
2			Armature Assembly Keys 1,2 120 Volt, 60 Hertz	205-0047	1	§ Key 3 (32 Volt) - Specs A through F	§ Key 3 (32 Volt) - Specs A through F	
	201-1512	1	Begin Spec K (Includes Parts Marked †)	7	205-0056 205-0056	1 1	Blower, Generator Cooling Keys 1,2 - Begin Spec G	Blower, Generator Cooling
	201-1072	1	Specs G through J (Includes Parts Marked @)	205-0056	1	Key 3 (24 Volt) - Begin Spec H	Key 3 (24 Volt) - Begin Spec H	
	201-0677	1	Specs A through F (Includes Parts Marked *)	205-0056	1	Key 3 (32 Volt) - Begin Spec G	Key 3 (32 Volt) - Begin Spec G	
			240 Volt, 60 Hertz	205-0056	1	Key 10	Key 10	
	201-1513	1	Begin Spec K (Includes Parts Marked †)	8	Coil Assembly, Field			
	201-1073	1	Specs G through J (Includes Parts Marked @)	222-1689 222-1690 222-1574 222-1407	1 1 1 1	Key 1 Begin Spec K (120 Volt) Begin Spec K (240 Volt) Specs G through J Specs A through F	Key 1 Begin Spec K (120 Volt) Begin Spec K (240 Volt) Specs G through J Specs A through F	
	201-0721	1	Specs A through F (Includes Parts Marked *)	222-1573 222-1400	1 1	Key 2 Begin Spec G Specs A through F	Key 2 Begin Spec G Specs A through F	
			120 Volt, 50 Hertz	222-1605 222-1592 222-1411 222-1583	1 1 1 1	Key 3 24 Volt-Begin Spec H 24 Volt-Specs A through G 32 Volt	Key 3 24 Volt-Begin Spec H 24 Volt-Specs A through G 32 Volt	
	201-1525	1	Begin Spec K (Includes Parts Marked †)	9	221-0110 221-0114 221-0125	4 4 4	Key 10 Shoe, Pole	Key 10 Shoe, Pole
	201-1190	1	Specs G through J (Includes Parts Marked @)	10	520-0363	2	Key 1,2 Key 3 Key 10	Key 1,2 Key 3 Key 10
	201-0688	1	Specs A through F (Includes Parts Marked *)	11	850-0040	2	Stud, Frame to Engine (1/4 x 1-9/16")	Stud, Frame to Engine (1/4 x 1-9/16")
	201-1526	1	Begin Spec K (Includes Parts Marked †)	12	115-0025	2	Washer, Lock - Spring (1/4")	Washer, Lock - Spring (1/4")
	201-1071	1	Specs G through J (Includes Parts Marked @)	13		2	Nut, Hex (Special)	Nut, Hex (Special)
	201-0798	1	Specs A through F (Includes Parts Marked *)	210-1739 210-1593 210-1449	1 1 1	Frame (Machined and Drilled for Coils and Pole Shoes)	Frame (Machined and Drilled for Coils and Pole Shoes)	
			Key 3 24 Volt	210-1638 210-0349 210-1638 210-0279 210-0240 210-1717	1 1 1 1 1 1	Key 1 and 2 Begin Spec G Spec E Specs A through D Key 3 24 Volt-Begin Spec H 24 Volt-Specs A through G	Key 1 and 2 Begin Spec G Spec E Specs A through D Key 3 24 Volt-Begin Spec H 24 Volt-Specs A through G	
	201-1189	1	Begin Spec H (Includes Parts Marked #)	14	800-0030	8	32 Volt-Begin Spec G	32 Volt-Begin Spec G
	201-1109	1	Specs A through G (Includes Parts Marked \$)	15	815-0181	2	32 Volt-Specs E and F	32 Volt-Specs E and F
			32 Volt	210-0240	1	32 Volt-Specs A through D	32 Volt-Specs A through D	
	201-1093	1	Begin Spec G (Includes Parts Marked #)	14	800-0030	8	Key 10	Key 10
	201-0693	1	Specs A through F (Includes Parts Marked \$)	15	815-0181	2	Screw, Cap - Hex Head (5/16-18 x 1-1/4")	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
	201-1075	1	Key 10 (Includes Parts Marked #)	815-0179	2	Keys 1,2 - Begin Spec G (#10-32 x 1/2")	Keys 1,2 - Begin Spec G (#10-32 x 1/2")	
3	510-0047	1+@#§	Bearing, Ball Ring, Collector	815-0179	2	Keys 1,2 - Specs E and F (#10-32 x 1/2")	Keys 1,2 - Specs E and F (#10-32 x 1/2")	
4	204-0097	1 +	Keys 1,2 - Begin Spec K	815-0179	2	Key 3 (24 Volt) (#10-32 x 3/8")	Key 3 (24 Volt) (#10-32 x 3/8")	
	204-0087	1 @'	Key 1,2 - Specs A through J	815-0181	2	Key 3 (32 Volt) Begin Spec E (#10-32 x 3/8")	Key 3 (32 Volt) Begin Spec E (#10-32 x 3/8")	
							Key 10 (#10-32 x 1/2")	Key 10 (#10-32 x 1/2")

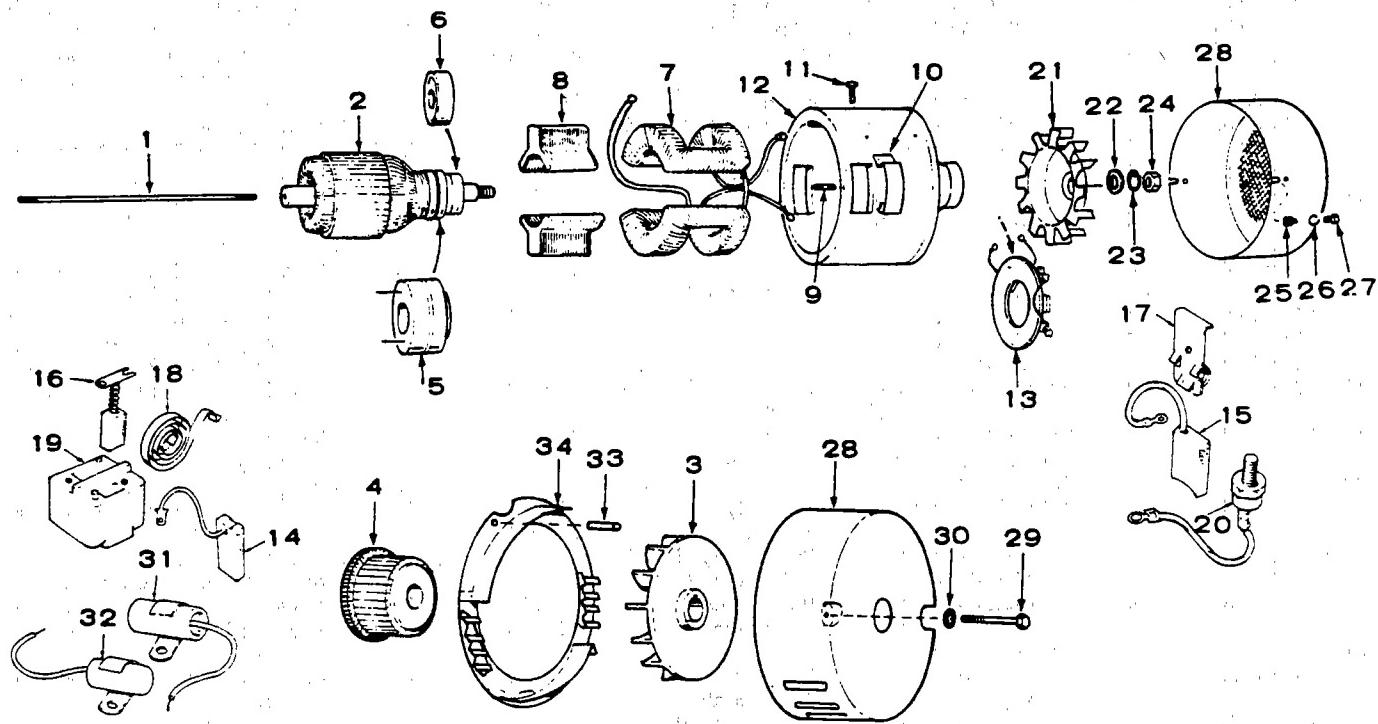
**Generator (Four Pole Type) - Keys 1,2,3,10**



# Generator (Four Pole Type) - Keys 1,2,3,10

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
16	232-1557	2	Clip, End Cover - Hold-down Keys 1,2 - Begin Spec G	25	526-0029	1	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
	232-1557	2	Key 3 (24 Volt) - Begin Spec H	26	850-0050	1	Washer, Lock - Spring (3/8")
	232-1557	2	Key 3 (32 Volt) - Begin Spec G	27	104-0091	1	Nut, Hex (Special)
	232-1557	2	Key 10	28			Cover, Generator End Keys 1,2
17			Rig Assembly, Brush (Includes Brushes, Springs, Holders and Rectifiers)	234-0127		1	Begin Spec G
			Keys 1,2	234-0125		1	Specs E and F
	212-0292	1	120 Volt - Begin Spec K	232-1214		1	Specs A through D
	212-0305	1	240 Volt - Begin Spec K	234-0127		1	Key 3
	212-0209	1	Specs A through J	234-0125		1	24 Volt-Begin Spec H
			Key 3	232-1214		1	24 Volt-Specs A through G
	212-0251	1	24 Volt-Begin Spec H	234-0127		1	32 Volt-Begin Spec G
	212-0378	1	24 Volt-Specs A through G	29	850-0040	2	32 Volt-Specs E and F
	212-0251	1	32 Volt-Begin Spec G	850-0040		1	32 Volt-Specs A through D
	212-0221	1	32 Volt-Specs A through F	234-0127		1	Key 10
18			Brush, Commutator (DC)	29	850-0040	2	Washer, Lock - Spring
	214-0041	4	Keys 1,2 - Specs A through J	850-0040		1	Keys 1,2 - Specs A through D (1/4")
			Key 3	30	800-0016	2	Key 3 (32 Volt) - Specs A through D (1/4")
	214-0009	4	24 Volt-Begin Spec H	800-0016		2	Screw, Cap - Hex Head
	214-0047	4	24 Volt-Specs A through G	31	232-0596	1	Keys 1,2 - Specs A through D (1/4-20 x 3-1/4")
	214-0009	4	32 Volt-Begin Spec G	232-0596		1	Key 3 (32 Volt) - Specs A through D (1/4-20 x 3-1/4")
	214-0047	4	32 Volt-Specs A through F	31	232-0596	1	Clip, Armature Bearing Stop
	214-0039	4	Key 10	32	312-0017	1	Key 3 (24 Volt) - Specs A through G
18	214-0072	2	Brush, Collector Ring (AC) - Keys 1,2 - Begin Spec K	312-0017		1	Key 3 (32 Volt) - Specs A through F
19	214-0059	4	Brush, Collector Ring (AC) - Keys 1,2 - Specs A through J	32	312-0058	1	Condenser, 0.5 Mfd. Keys 1,2 - Specs A through J
20			Spring, Brush	312-0058		1	Keys 3,10
	212-1105	2	Collector Ring Brush (AC) - Keys 1,2 - Begin Spec K	33	312-0058	1	Condenser, 0.1 Mfd. - Keys 1,2
	212-1106	4	Commutator Brush (DC) - Key 3 (24 Volt) Specs A through G	34	232-1197	2	Spacer, Scroll Mounting
	212-1106	4	Commutator Brush (DC) - Key 3 (32 Volt) Specs A through F	232-1197		2	Keys 1,2 - Specs A through F
21			Spring, Brush	232-1197		2	Key 3 (24 Volt) - Specs A through G
	212-1003	4	Commutator Brush (DC) - Keys 1,2 - Specs A through J	232-1197		2	Key 3 (32 Volt) - Specs A through F
	212-1003	4	Commutator Brush (DC) - Key 3 (24 Volt) Begin Spec H	35	234-0007	1	Scroll, Air
	212-1003	4	Commutator Brush (DC) - Key 3 (32 Volt) Begin Spec G	234-0007		1	Keys 1,2 - Specs A through F
	212-1003	4	Commutator Brush (DC) - Key 10	234-0007		1	Key 3 (24 Volt) - Specs A through G
22			Rectifier - Keys 1,2 - Begin Spec K	234-0007		1	Key 3 (32 Volt) - Specs A through F
	305-0473	1	120 Volt				# - Included in 201-1512, 201-1513, 201-1525, 201-1526 Armature Assembly.
	305-0474	1	240 Volt				@ - Included in 201-1071, 201-1072, 201-1073, 201-1190 Armature Assembly.
23	212-1064	2	Guide, Brush - Keys 1,2 - Specs A through J				* - Included in 201-0677, 201-0688, 201-0721, 201-0798 Armature Assembly.
24			Washer, Lock - Spring (#10)				# - Included in 201-1075, 201-1093, 201-1189 Armature Assembly.
	850-0030	2	Keys 1,2 - Specs E and F				§ - Included in 201-0693, 201-1109 Armature Assembly.
			Key 3				
			24 Volt-Specs A through G				
	850-0030	2	32 Volt-Specs E and F				

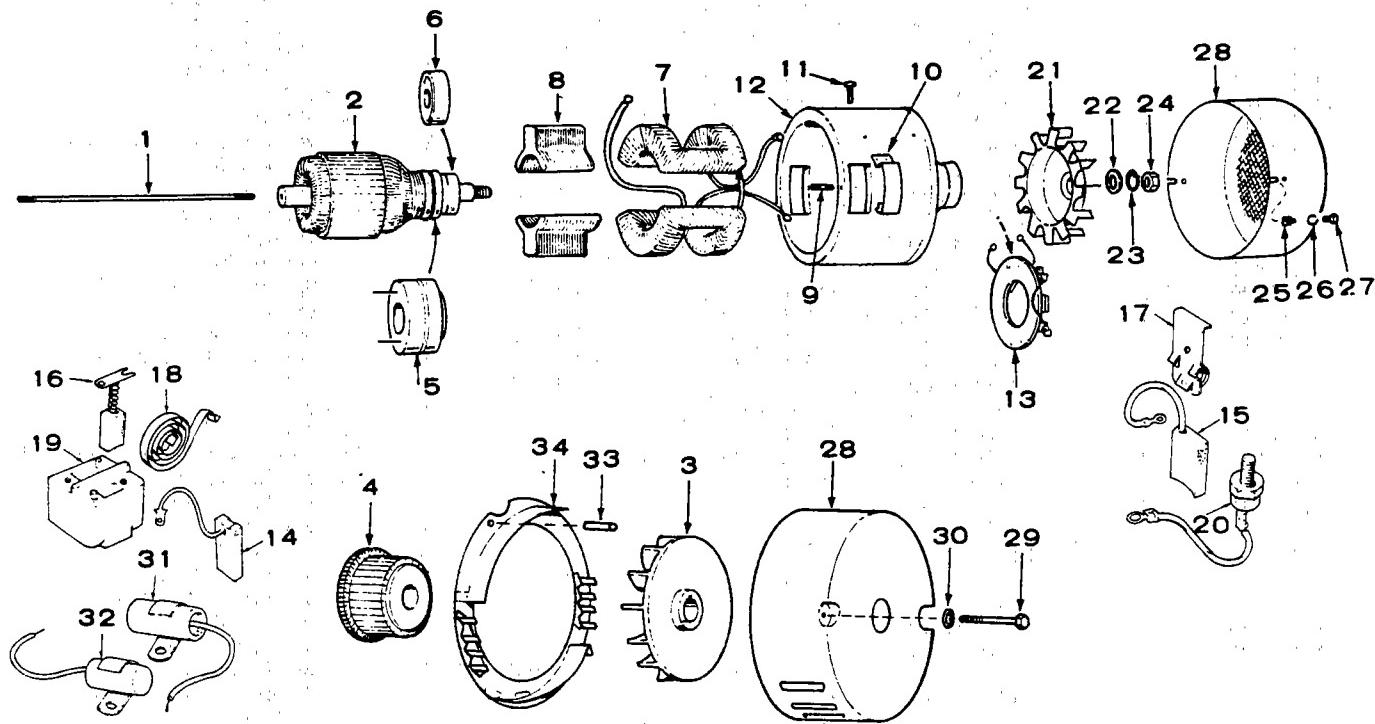
**Generator (Two Pole Type) - Keys 4,5,6,7,8,9**



# Generator (Two Pole Type) - Keys 4,5,6,7,8,9

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Stud, Armature Through Keys 4,5				Key 9 Begin Spec H (Includes Bearing, Collector Ring and Commutator)
520-0056	1	1	Begin Spec B				50 Hertz
520-0280	1	1	Spec A	201-1191	1	1	60 Hertz
520-0536	1	1	Keys 6,7	201-1140	1	1	Specs A through G (Includes Bearing, Collector Ring and Commutator)
520-0285	1	1	Key 8				50 Hertz
520-0563	1	1	Key 9				60 Hertz
2			Armature Assembly Keys 4,5				Blower, Cooling - Keys 4,5 - Spec A
			Begin Spec H (Includes Bearing and Collector Ring)	201-1100	1	1	Commutator
			120 Volt, 50 Hertz	201-1043	1	1	Keys 4,5,6,7 - Specs A through G
201-1343	1	1	120 Volt, 60 Hertz	3	205-0047	1	Keys 8,9
201-1346	1	1	240 Volt, 50 Hertz	4	203-0117	1	Ring, Collector Keys 4,5
201-1344	1	1	240 Volt, 60 Hertz		203-0133	1	Begin Spec H
201-1347	1	1	Specs B through G (Includes Bearing, Collector Ring and Commutator)		204-0097	1	Specs A through G
			120 Volt, 50 Hertz	204-0087	1	1	Keys 6,7
201-0811	1	1	120 Volt, 60 Hertz	204-0101	1	1	Begin Spec H
201-0800	1	1	240 Volt, 50 Hertz	204-0089	1	1	Specs A through G
201-0812	1	1	240 Volt, 60 Hertz	204-0087	1	1	Key 8
201-0810	1	1	Spec A (Includes Bearing, Collector Ring, Commutator and Blower)	204-0089	1	1	Key 9
			120 Volt, 50 Hertz	6	510-0047	1	Bearing, Ball
201-0799	1	1	120 Volt, 60 Hertz	7			Coil Assembly, Field (2 Coils Wired Together)
201-0679	1	1	240 Volt, 50 Hertz				Keys 4,5 - Begin Spec H
201-0795	1	1	240 Volt, 60 Hertz		222-1643	1	120 Volt
201-0753	1	1	Keys 6,7		222-1644	1	240 Volt
			Begin Spec H (Includes Bearing and Collector Ring)		222-1643	1	Keys 6,7 - Begin Spec H
			50 Hertz		222-1419	1	Keys 4,5,6,7 - Specs A through G
201-1364	1	1	60 Hertz				Keys 8,9
201-1348	1	1	Specs A through G (Includes Bearing, Collector Ring and Commutator)		222-1598	1	Begin Spec H
			50 Hertz		222-1561	1	Specs A through G
			60 Hertz	8	221-0112	2	Shoe, Pole Keys 4,5,6,7
201-0853	1	1	Key 8		221-0135	2	Keys 8,9
201-0829	1	1	Begin Spec H (Includes Bearing, Collector Ring and Commutator)		520-0363	2	Stud, Frame to Engine Keys 4,5,6,7 (1/4 x 1-9/16")
			120 Volt, 50 Hertz		520-0363	4	Keys 8,9 (1/4 x 1-9/16")
201-1164	1	1	120 Volt, 60 Hertz	10	234-0169	2	Cover, Generator Air Opening Keys 4,5,6,7
201-1141	1	1	240 Volt, 50 Hertz		234-0119	2	Keys 8,9 Begin Spec G
201-1180	1	1	240 Volt, 60 Hertz		234-0124	2	Specs A through F
201-1224	1	1	Specs A through G (Includes Bearing, Collector Ring and Commutator)	11	102-0455	4	Screw, Cap - Hex Head (Special)
			120 Volt, 50 Hertz				
201-1137	1	1	120 Volt, 60 Hertz				
201-1044	1	1	240 Volt, 50 Hertz				
201-1106	1	1	240 Volt, 60 Hertz				
201-1117	1	1					

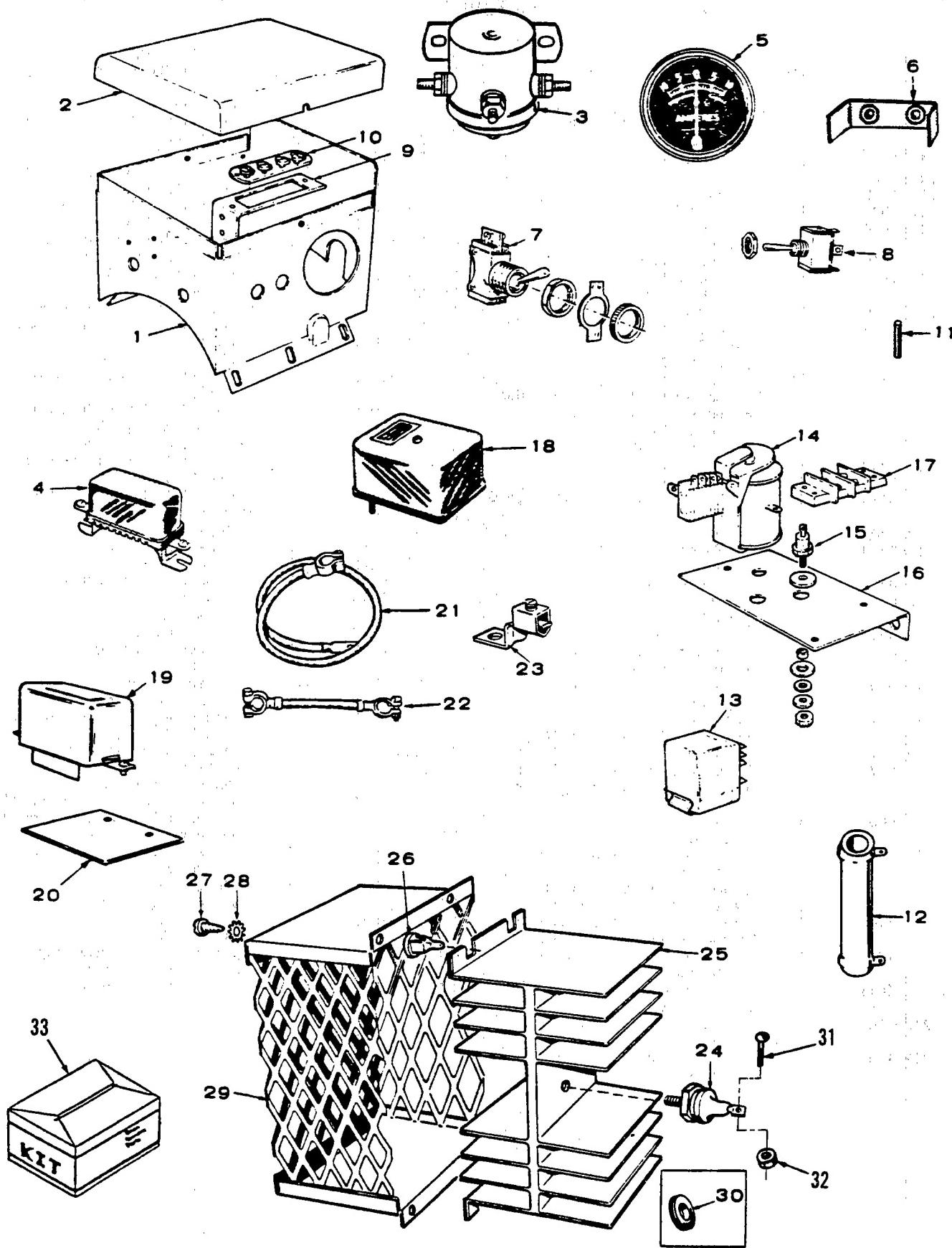
**Generator (Two Pole Type) - Keys 4,5,6,7,8,9**



**Generator (Two Pole Type) - Keys 4,5,6,7,8,9**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
12			Frame (Machined and Drilled for Coils and Pole Shoes)	20			Rectifier
			Keys 4,5	305-0473	2		Keys 4,5 - Begin Spec H
	210-1716	1	Begin Spec G	305-0474	2		120 Volt
	210-1562	1	Spec E and F	305-0473	2		240 Volt
	210-1532	1	Specs C and D	21			Keys 6,7 - Begin Spec H
	210-1532	1	Spec B	205-0056	1		Blower, Cooling
	210-1464	1	Spec A	205-0056	1		Keys 4,5 - Begin Spec B
			Keys 6,7	22	526-0029	1	Keys 6,7,8,9
	210-1718	1	Begin Spec G	23	850-0050	1	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
	210-1543	1	Specs A through F	24	104-0091	1	Washer, Lock - Spring (3/8")
			Key 8	25			Nut, Hex (Special)
	210-1719	1	Begin Spec G	26	232-1557	2	Clip, End Cover Mounting
	210-1704	1	Specs A through F		232-1557	2	Keys 4,5,6,7 - Begin Spec G
			Key 9		232-1557	2	Keys 8,9
	210-1720	1	Begin Spec G	26	850-0025	2	Washer, Lock - Spring
	210-1701	1	Specs A through F				Keys 4,5 - Specs E and F (#10)
13			Rig Assembly, Brush (Includes Brushes, Springs, Holders and Rectifiers)	850-0025	2		Keys 6,7,8,9 - Specs A through F (#10)
			Keys 4,5 - Begin Spec H	27	815-0181	2	Screw, Cap - Hex Head
	212-0292	1	120 Volt				Keys 4,5 - Begin Spec E (#10-32 x 1/2")
	212-0305	1	240 Volt				Keys 6,7,8,9 (#10-32 x 1/2")
	212-0215	1	Keys 4,5 - Specs A through G	28	815-0181	2	Cover, End
			Keys 6,7				Keys 4,5
	212-0401	1	Begin Spec H	234-0127	1		Begin Spec G
	212-0230	1	Specs A through G	234-0127	1		Specs E and F
			Key 8	234-0004	1		Specs B through D
	212-0277	1	Begin Spec H	232-1214	1		Spec A
	212-0277	1	Specs A through G				Keys 6,7,9
			Key 9	234-0129	1		Begin Spec G
	212-0273	1	Begin Spec H	234-0129	1		Specs A through F
	212-0261	1	Specs A through G				Key 8
14			Brush, Commutator (DC)	234-0127	1		Begin Spec G
	214-0001	2	Keys 4,5,6,7 - Specs A through G	234-0127	1		Specs A through F
	214-0070	2	Keys 8,9	234-0497	1		Begin Spec N - 50 Hertz only (Key 8)
15			Brush, Collector Ring (AC)	29	800-0016	2	Screw, Cap - Hex Head
	214-0072	2	Keys 4,5,8 - Begin Spec H				(1/4-20 x 3-1/4") - Keys 4,5
	214-0072	3	Keys 6,7,9 - Begin Spec H				(Specs A through D)
16			Brush and Spring, Collector Ring (AC)	30	850-0040	2	Washer, Lock - Spring (1/4")
	214-0059	4	Keys 4,5,8 - Specs A through G				- Keys 4,5 (Specs A through D)
	214-0059	6	Keys 6,7,9 - Specs A through G	31	312-0017	1	Condenser (0.5 Mfd.)
17			Spring, Collector Ring Brush	312-0017	1		Keys 4,5,6,7 - Specs A through G
	212-1105	2	Keys 4,5,8 - Begin Spec H	32			Keys 8,9
	212-1105	3	Keys 6,7,9 - Begin Spec H	312-0058	1		Condenser (0.1 Mfd.)
18			Spring, Commutator Brush	312-0058	2		Keys 4,5,8
	212-1003	2	Keys 4,5,6,7 - Specs A through G	33	232-1197	2	Keys 6,7,9
	212-1011	2	Keys 8,9	34	234-0007	1	Spacer, Scroll Mounting -
19			Guide, Brush				Keys 4,5 - Spec A
	212-1064	2	Keys 4,5,8 - Specs A through G				Scroll, Air - Keys 4,5 - Spec A
	212-1162	2	Keys 6,7,9 - Specs A through G				

Control - Keys 2,3,8,9



**Control - Keys 2,3,8,9**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Box, Control	13	307-0642	1	*Relay, Start - Disconnect - Keys 8,9 - Begin Spec H
	301-4660	1	Key 2 Begin Spec G	14	306-0028	1	Relay, Start - Disconnect - Keys 8,9 - Specs A through G (Replaced by 307-0642)
	301-1059	1	Specs A through F	15	305-0235	1	Rectifier (10 Amp, 100 Volt Peak) - Keys 8,9 - Specs A through G
	301-3408	1	Key 3 Begin Spec L	16	301-1829	1	Bracket, Relay and Rectifier - Keys 8,9 - Specs A through G
	301-3408	1	24 Volt-Specs A through K	17	332-0609	1	Block, Terminal (2 Place) - Keys 8,9 - Specs A through G
	301-1868	1	32 Volt-Specs G through K	18	307-0112	1	Relay, Reverse Current - Key 3 24 Volt, Specs A through K
	301-1128	1	32 Volt-Spec F		307-0185	1	32 Volt, Specs A through E
	301-1127	1	32 Volt-Specs A through E	19	307-0496	1	Relay, Reverse Current - Key 3 - 32 Volt - Specs F through K
	301-4659	1	Keys 8,9 Begin Spec H	20	301-0592	1	Insulator, Reverse Current Relay - Key 3 - 32 Volt - Specs F through K
	301-4659	1	Spec G	21	416-0077	2	Cable, Battery (28") - Keys 2,8,9
	301-1823	1	Specs A through F	22	416-0133	1	Cable, Battery Jumper (6-3/4") - Keys 2,8,9
2			Cover, Control Box - Keys 2,3,8,9	23	332-0142	1	Terminal, Solderless - Ground
	301-1858	1	Begin Spec G	24	358-0038	1	Diode, Key 3 - Begin Spec L
	301-1060	1	Specs A through F	25	363-0057	1	Sink, Heat - Key 3 - Begin Spec L
3			Switch, Start Solenoid	26	870-0196	4	Nut, Insulating - Key 3 - Begin Spec L
	307-1046	1	Keys 2,8,9	27	809-0035	4	Screw, Round Head Tapping (#8 x 3/4") - Key 3 - Begin Spec L
	307-0061	1	Key 3	28	853-0005	4	Washer, Lock - ET (#8)
4	307-0180	1	Relay, Reverse Current	29	301-3395	1	Box, Heat Sink Mounting - Key 3 - Begin Spec L
5			Ammeter, Charge (Includes Bracket) (Kit)	30	508-0109	1	Grommet, Diode Leads - Key 3 - Begin Spec L (11/16 ID x 1-5/16" OD)
	302-1360	1	Key 2	31	812-0076	1	Screw, Machined - Round Head (#8-32 x 1/4")
			Key 3	32	870-0221	1	Nut, Hex - External Tooth (#8-32)
	302-1364	1	24 Volt	33	307-1978	1	Relay Kit (Includes Parts Marked *)
	302-1363	1	32 Volt				
6	302-0270	1	Bracket, Ammeter - Keys 2,3				
7	308-0002	1	Switch, Charge Rate (Hi-Lo) - Key 2				
8			Switch, Start-Stop				
	308-0154	1	Keys 2,8,9 Begin Spec G				
	308-0166	1	Specs A through F				
			Key 3				
	308-0155	1	Begin Spec G				
	308-0029	1	Specs A through F				
9	332-0198	1	Bracket, Terminal Block - Keys 2,3,8,9				
10	332-0222	1	Block, Terminal - Keys 2,3,8,9				
11	332-0125	1	Stud, Brass - Key 3				
12			Resistor, Charge				
	304-0268	1	Key 2 - Adjustable				
			Begin Spec G (5-Ohm, 50 Watt)				
	304-0066	1	Specs A through F (10-Ohm, 50 Watt)				
			Keys 8,9 - Fixed				
	304-0046	1	Begin Spec H (10-Ohm, 50 Watt)				
	304-0002	1	Specs A through G (15-Ohm, 50 Watt)				

\* - Part Included in 307-1978 Relay Kit.

## Service Kits and Miscellaneous

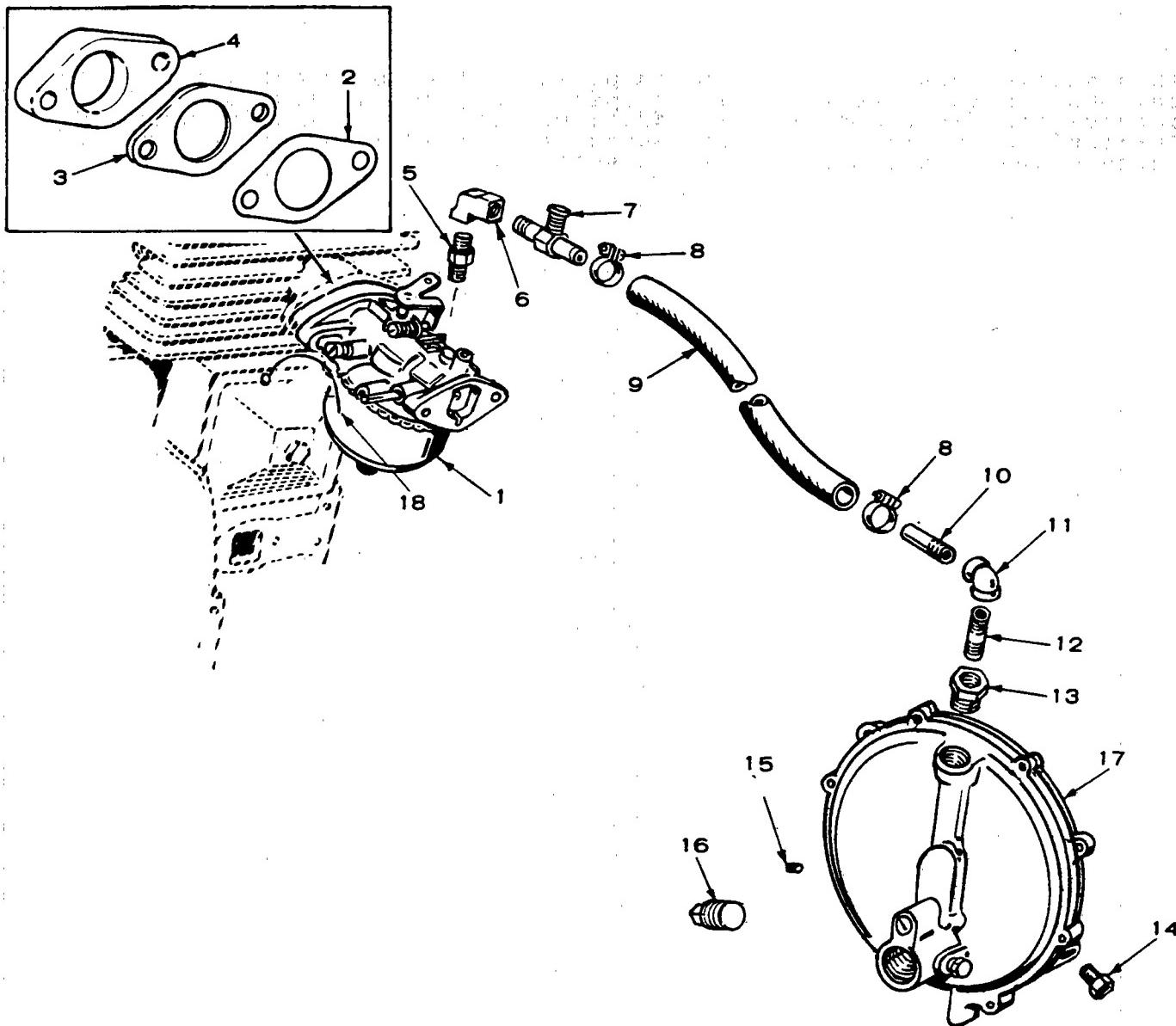
REF. NO.	PART NO.	QTY USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY USED	PART DESCRIPTION
	98-1100	1	Decal Kit		412-0004	1	Cover, Canvas, Weatherproof (Accessory)
	168-0062	1	Gasket Kit, Generator Set		333-0124	1	Cold Weather Heater Kit (300 Watt, 120 Volt) -
	522-0232	1	Overhaul Kit, Generator Set				Mounts on Cylinder Head
	522-0215	1	Begin Spec K				Under Shroud
	525-0137	1	Spec A through J		405-2243	1	Housing Kit, Generator Set
	525-0305	1	Touch-Up Paint (Pressurized Can) - (13 oz.)				
		1	Metallic Green				
		1	Non-Metallic Green				

NOTE: For other kits, refer to the group for the part in question.

## OPTIONAL EQUIPMENT PARTS SECTION

This section contains illustrated parts listing of factory installed options for the generator sets. Options may not be applicable to all models; for field conversions additional parts are usually required. Optional parts listed in this section are in addition or in place of those shown in the standard parts section.

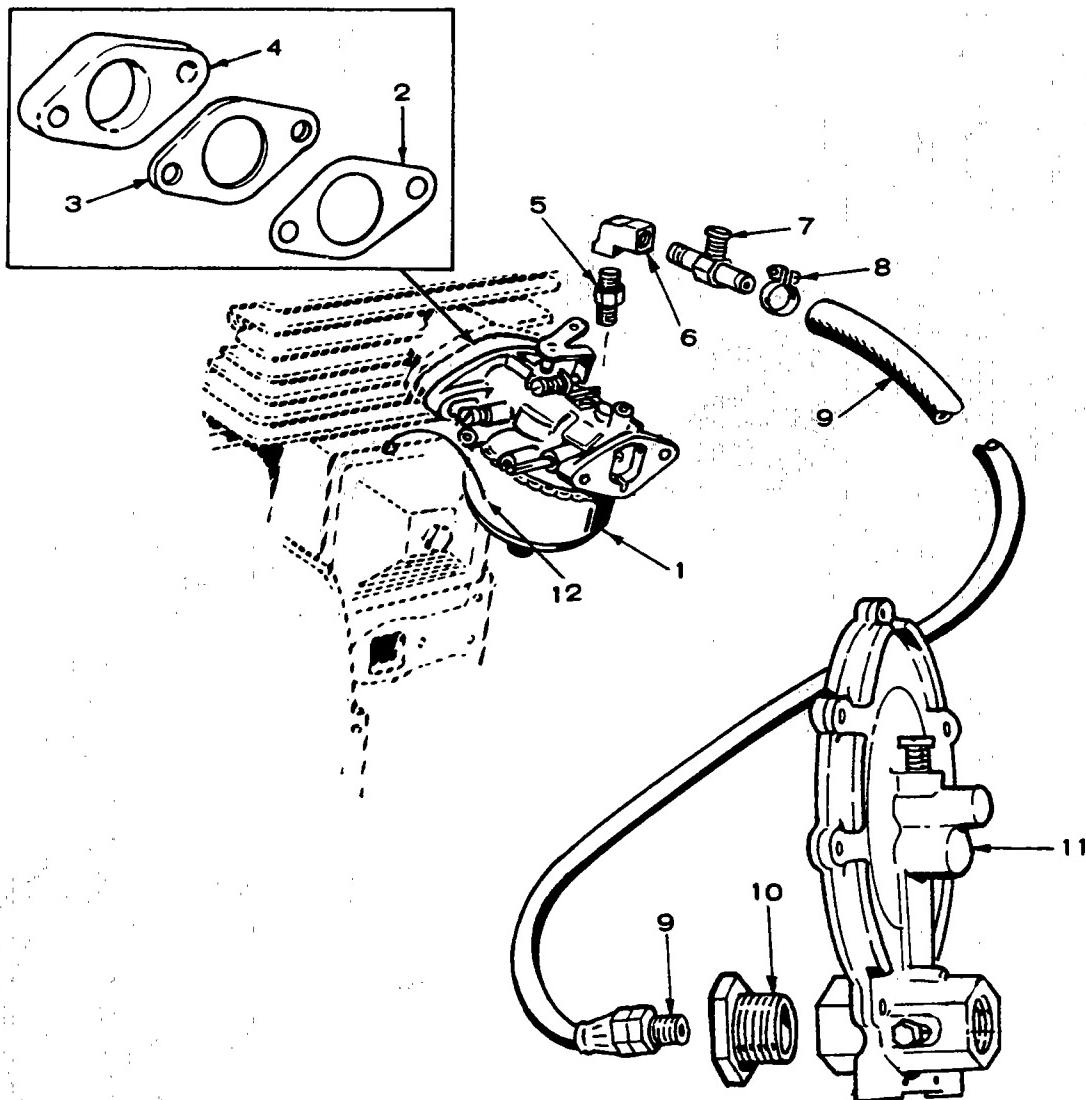
Fuel System (Gas-Gasoline) with Garretson Regulator  
Optional



REF. NO.	PART NO.	QTY USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY USED	PART DESCRIPTION
1 146-0298	Carburetor, Gas-Gasoline (Includes Mounting Gasket)	1	Keys 1,3,4,5,6,7,10 (Manual Choke)	9 503-0315	Hose, Regulator to Carburetor (1/2" ID x 2 Ft. Long)	1	Nipple, Half (1/4 x 1-1/2")
2 141-0078	Gasket, Carburetor Mounting	1	Keys 2,8,9 (Electric Choke)	10 505-0302	Elbow, Pipe - 90° (1/4")	1	Nipple, Close (1/4 x 7/8")
3 145-0469	Plate, Carburetor Mounting	1	Plate, Carburetor Mounting	11 505-0038	Bushing, Reducer (3/8 x 1/4")	1	Vent, Atmospheric
4 145-0110	Spacer, Insulating	1	Spacer, Insulating	12 505-0099	Plug, Pipe (1/8")	2	Plug, Pipe (3/4")
5 502-0082	Nipple, Pipe - Hex (1/8-1/8")	1	Nipple, Pipe - Hex (1/8-1/8")	13 505-0017	Regulator, Gas Pressure	1	Lock, Carburetor Choke Shaft
6 502-0055	Elbow, Pipe (90°)	1	Elbow, Pipe (90°)	14 148-0107	148-0311	1	Kit, Repair - Gas Regulator
7 148-0178	Adjusting Assembly, Gas	1	Adjusting Assembly, Gas	15 505-0057	145-0392	1	
8 503-0032	Clamp, Hose	2	Clamp, Hose	16 505-0130	148-0390	1	

NOTE: Refer to Standard Gasoline Fuel System Group for Air Cleaner, Air Cleaner Adapter, Fuel Pump, Fuel Filter and Fuel Lines (Gasoline).

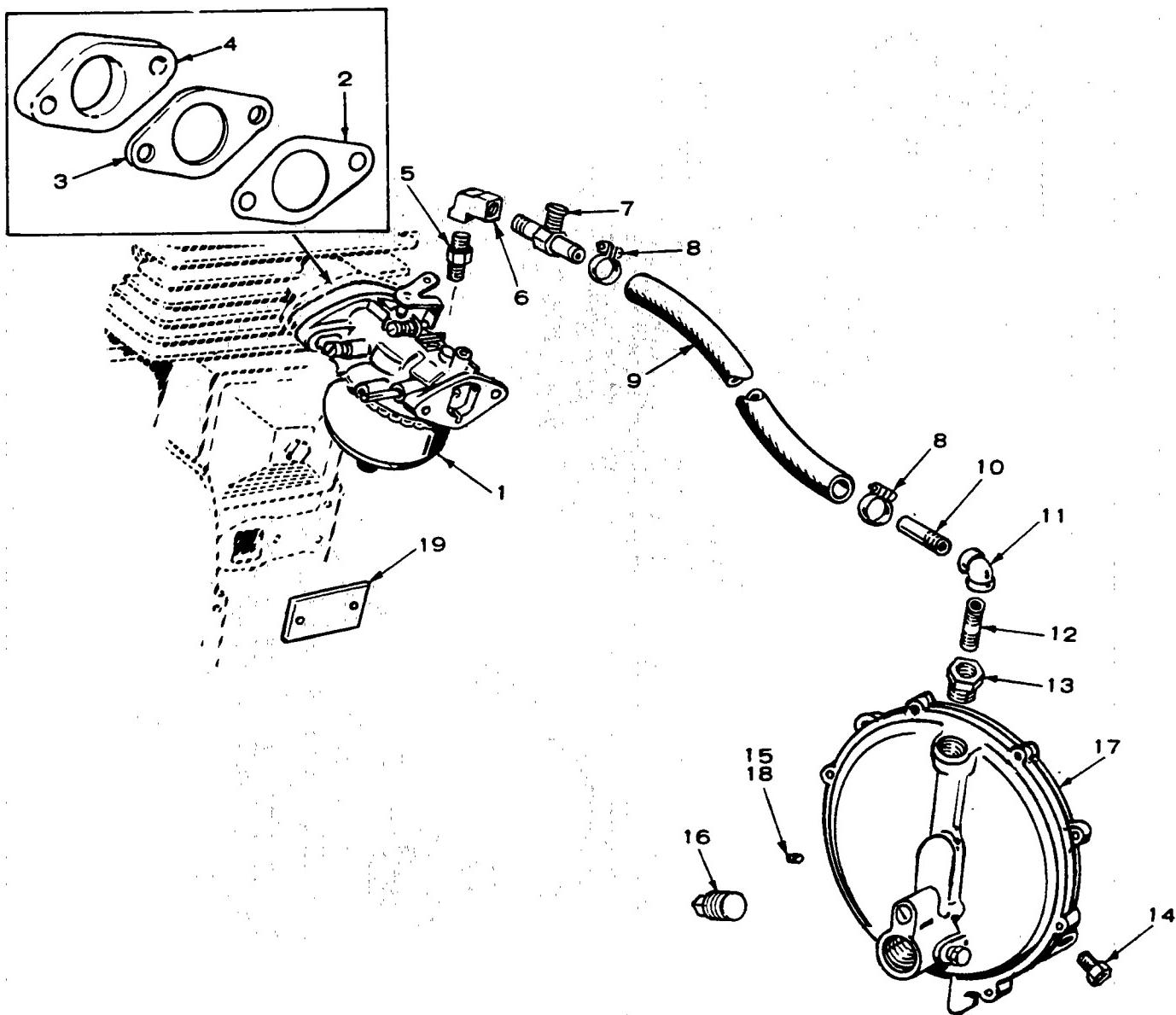
Fuel System (Gas-Gasoline) with Ensign Regulator  
- Optional



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Carburetor, Gas-Gasoline (Includes Mounting Gasket)	7	148-0178	1	Adjusting Assembly, Gas
146-0298	146-0298	1	Keys 1,3,4,5,6,7,10 (Manual Choke)	8	503-0027	1	Clamp, Hose
146-0299	146-0299	1	Keys 2,8,9 (Electric Choke)	9	501-0027	1	Hose, Regulator to Carburetor (48" Long)
2	141-0078	1	Gasket, Carburetor Mounting	10	505-0021	1	Bushing, Reducer (3/4 x 1/2")
3	145-0469	1	Plate, Carburetor Mounting	11	148-0311	1	Regulator, Gas Pressure
4	145-0110	1	Spacer, Insulating	12	153-0319	1	Lock, Choke Shaft
5	502-0082	1	Nipple, Pipe - Hex (1/8-1/8")	148-0300		1	Kit, Repair - Gas Regulator For Ensign Model F
6	502-0055	1	Elbow, Pipe (90°)	148-0522		1	For Ensign Model F1

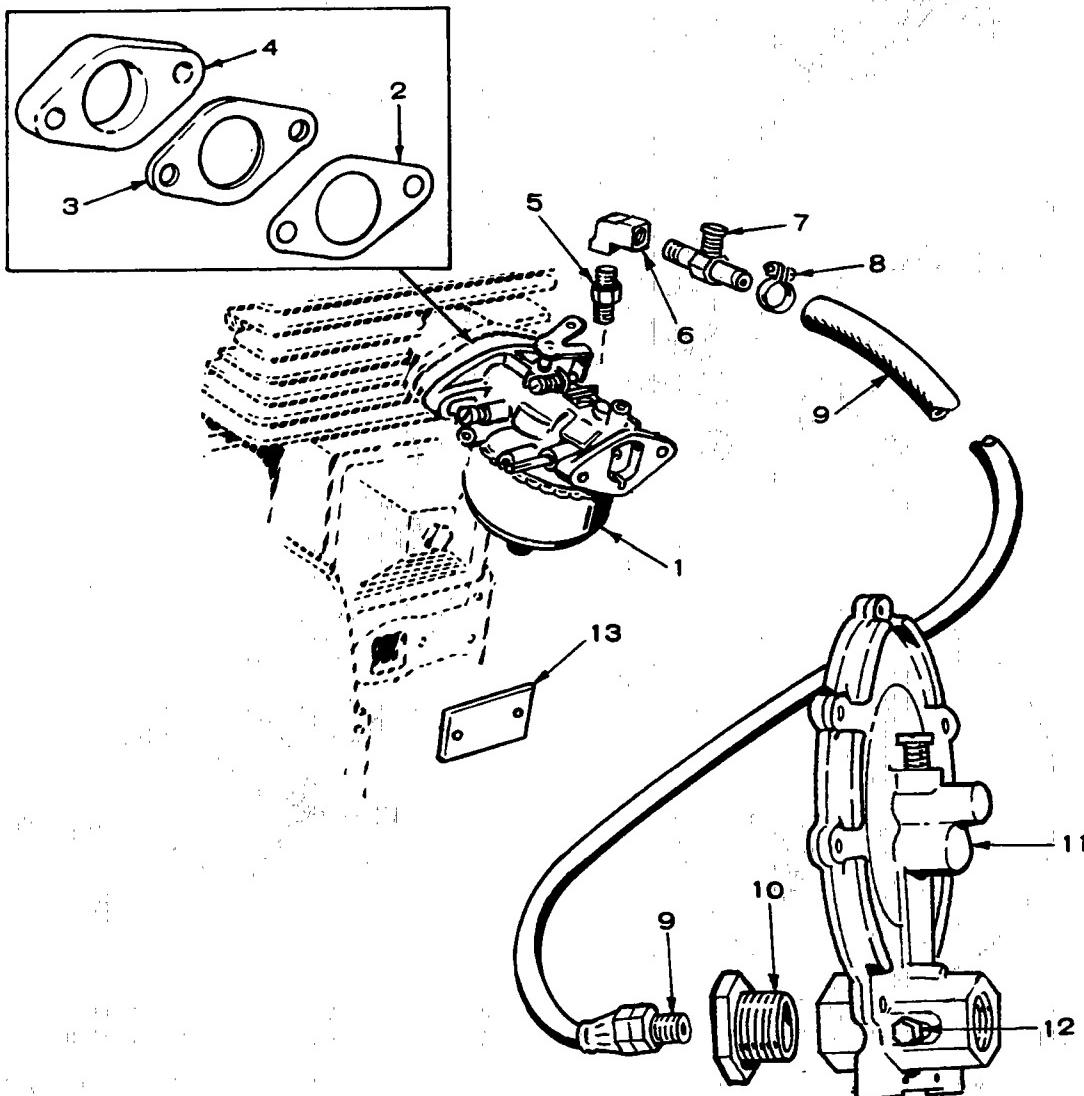
NOTE: Refer to Standard Gasoline Fuel Group for Air Cleaner, Air Cleaner Adapter, Fuel Pump, Fuel Filter and Fuel Lines (Gasoline).

**Fuel System (Gas) with Garretson Regulator  
- Optional**



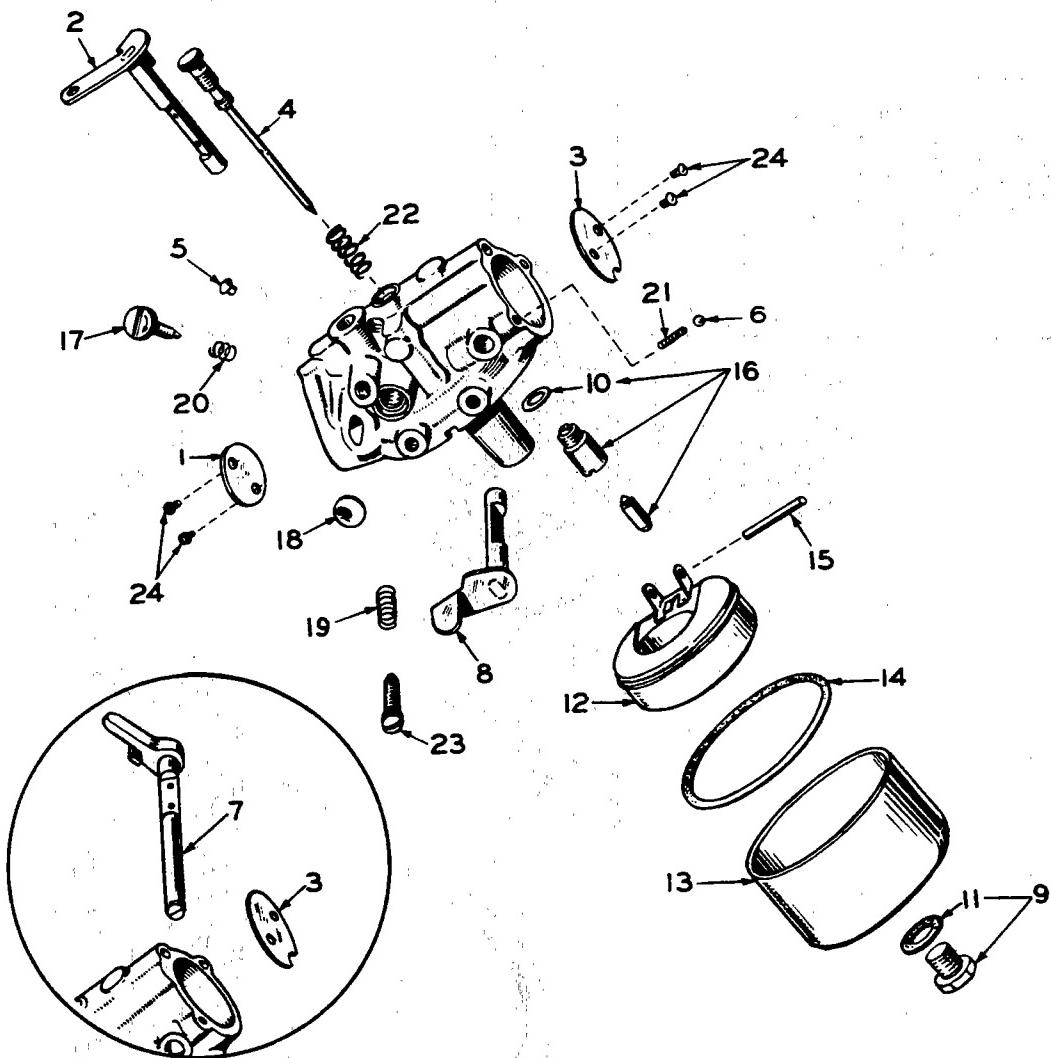
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	146-0295	1	Carburetor-Gas (Includes Mounting Gasket)	11	505-0038	1	Elbow, Pipe - 90° (1/4")
2	141-0078	1	Gasket, Carburetor Mounting	12	505-0099	1	Nipple, Close (1/4 x 7/8")
3	145-0469	1	Plate, Carburetor Mounting	13	505-0017	1	Bushing, Reducer (3/8 x 1/4")
4	145-0110	1	Spacer, Insulating	14	148-0107	1	Vent, Atmospheric
5	502-0082	1	Nipple, Pipe - Hex (1/8-1/8")	15	505-0057	2	Plug, Pipe (1/8")
6	502-0055	1	Elbow, Pipe (90°)	16	505-0130	1	Plug, Pipe (3/4")
7	148-0178	1	Adjusting Assembly, Gas	17	148-0311	1	Regulator, Gas Pressure
8	503-0032	2	Clamp, Hose	18	505-0057	1	Plug, Pipe (1/8")
9	503-0315	1	Hose, Regulator to Carburetor (1/2" ID x 2 Ft. Long)	19	149-0136	1	Cover, Fuel Pump Hole in Cylinder Block
10	505-0302	1	Nipple, Half (1/4 x 1-1/2")	148-0390		1	Kit, Repair - Gas Regulator
				148-0510		1	Kit, Gas Conversion

**Fuel System (Gas) with Ensign Regulator  
- Optional**



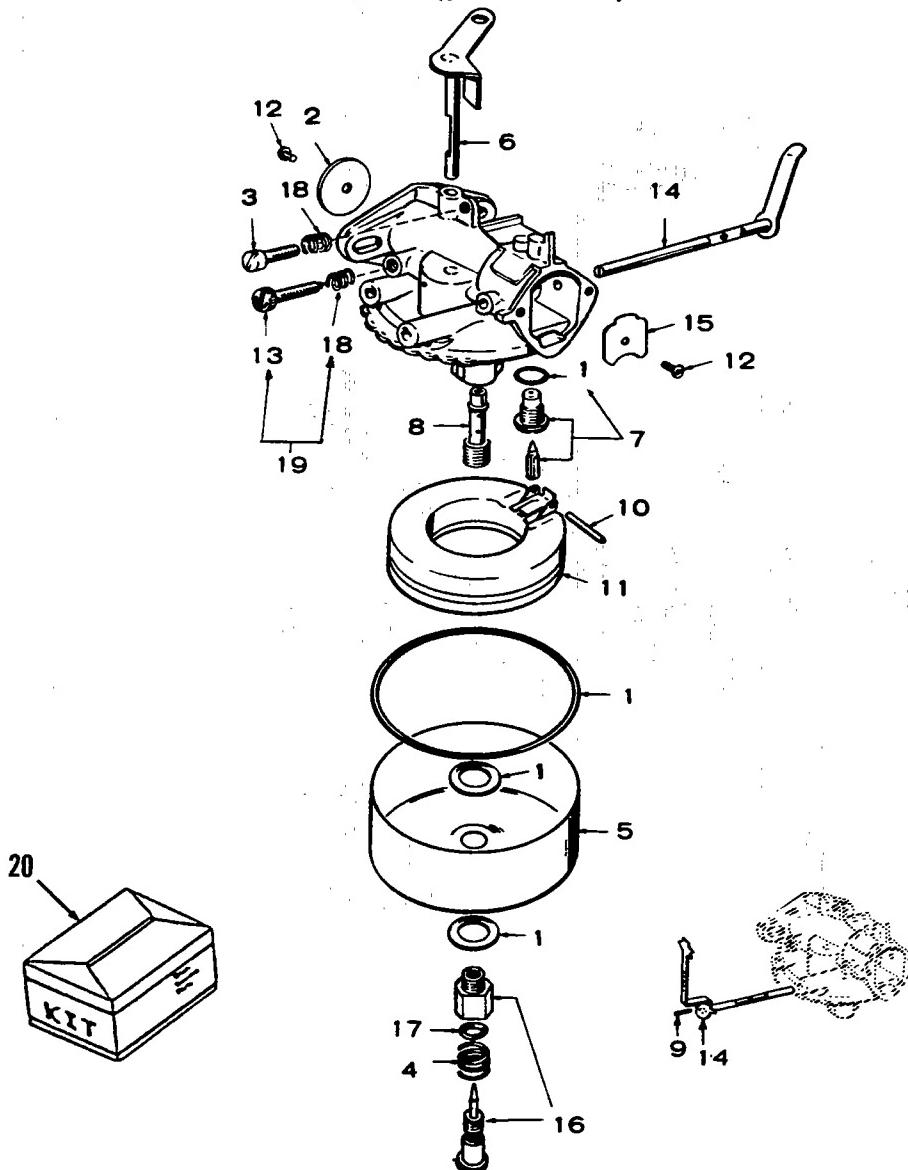
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	146-0295	1	Carburetor, Gas (Includes Mounting Gasket)	10	505-0021	1	Bushing, Reducer (3/4 x 1/2")
2	141-0078	1	Gasket, Carburetor Mounting	11	148-0311	1	Regulator, Gas Pressure
3	145-0469	1	Plate, Carburetor Mounting	12	505-0057	1	Plug, Pipe (1/8")
4	145-0110	1	Spacer, Insulating	13	149-0136	1	Cover, Fuel Pump Hole in Cylinder Block
5	502-0082	1	Nipple, Pipe - Hex (1/8-1/8")				Kit, Repair - Gas Regulator
6	502-0055	1	Elbow, Pipe (90°)	148-0300		1	For Ensign Model F
7	148-0178	1	Adjusting Assembly, Gas	148-0522		1	For Ensign Model F1
8	503-0027	1	Clamp, Hose				
9	501-0027	1	Hose, Regulator to Carburetor (48" Long)				

**Carburetor Parts (Gas-Gasoline)**  
Specs A through J - Optional



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
		1	Carburetor, Gas-Gasoline Keys 1,3,4,5,6,7,10 - Replacement Carburetor 146-0094 - Manual Choke	10	143-0015	1	#†*Gasket, Fuel Inlet Valve
		1	Keys 2,8,9 - Replacement Carburetor 146-0095 - Electric Choke	11	143-0036	1	#†*Gasket, Bowl Screw
143-0081	1	1	Repair Kit (Includes Parts Marked †)	12	143-0105	1	Float
143-0080	1	1	Gasket Kit (Includes Parts Marked *)	13	143-0119	1	Bowl
1 143-0097	1	1	Valve, Throttle	14	143-0077	1	#†*Gasket, Bowl Ring
2 143-0098	1	1	Shaft and Lever Throttle	15	141-0703	1	#Pin, Float
3 143-0267	1	1	Valve, Choke Keys 1,3,4,5,6,7,10 - Manual Choke	16	143-0341	1	†Valve, Fuel Inlet Kit (Includes Parts Marked #)
4 143-0099	1	1	Keys 2,8,9 - Electric Choke	17	143-0109	1	Screw, Idle Adjustment
4 143-0078	1	1	#†Valve Needle	18	143-0110	1	Plug, Welsh
5 143-0030	1	1	Plug, Idle Passage	19	143-0111	1	Spring, Throttle Lever Adjusting Screw
6 510-0083	1	1	Ball, Choke Shaft - Keys 1,3, 4,5,6,7,10	20	143-0112	1	Spring, Idle Adjusting Screw
7 143-0100	1	1	Shaft and Weight, Choke - Keys 2,8,9	21	143-0113	1	Spring Choke Shaft Stop - Keys 1,3,4,5,6,7,10
8 143-0101	1	1	Shaft and Lever, Choke - Keys 1,3,4,5,6,7,10	22	143-0114	1	Spring, High Speed Adjusting Needle
9 143-0118	1	1	Screw and Gasket, Bowl	23	143-0115	1	Screw, Throttle Lever Adjusting Screw, Round Head Machine (#3-48 x 3/16")
				24	812-0014	4	
					145-0110	1	#†*Gasket, Carburetor Mounting
							† - Included in 143-0081 Repair Kit. * - Included in 143-0080 Gasket Kit. # - Included in 143-0341 Kit.

**Carburetor Parts (Gas-Gasoline)**  
**Begin Spec K - Optional**



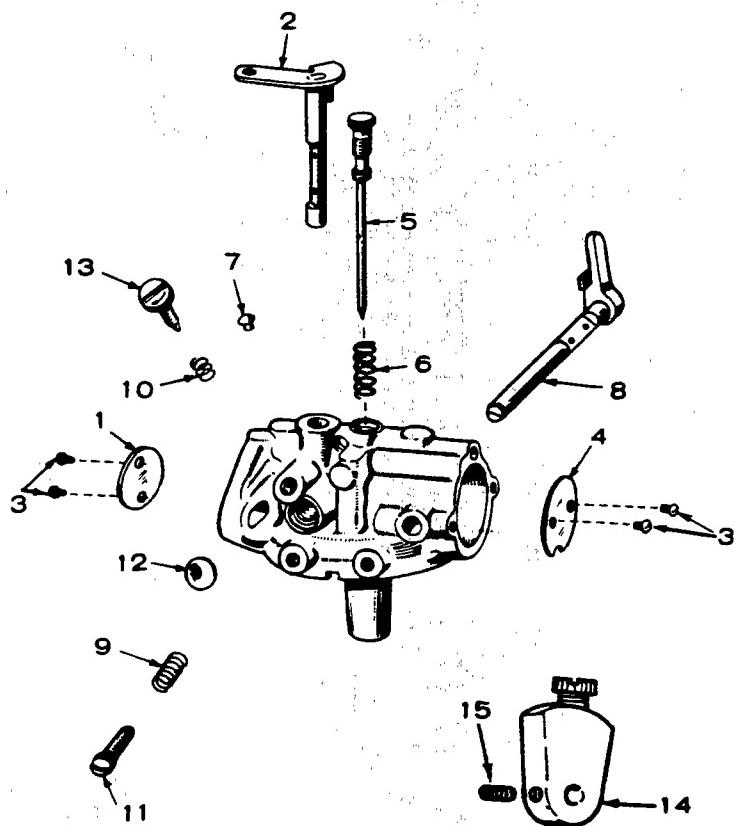
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Carburetor, Gas-Gasoline	14			Shaft Assembly, Choke
146-0094	1	1	Keys 1,3,4,5,6,7,10 (Manual Choke)	146-0108	1	1	Keys 1,3,4,5,6,7,10
146-0095	1	1	Keys 2,8,9 (Electric Choke)	146-0106	1	1	Keys 2,8,9
146-0123	1	1	Repair Kit, Carburetor (Includes Parts Marked *)	15			Valve, Choke
1 146-0124	1	1	*Gasket Kit, Carburetor	16	146-0105	1	Keys 1,3,4,5,6,7,10
2 146-0119	1	1	Valve, Throttle	17	146-0104	1	Keys 2,8,9
3 146-0122	1	1	+Screw, Throttle Stop	18	146-0102	1	*Needle Assembly, Power Seal, "O" Ring - High Speed Needle
4 146-0117	1	1	Spring, High Speed Needle	19	146-0120	1	17 146-0186 1
5 146-0118	1	1	Bowl, Fuel	18	146-0186	1	\$Spring, Throttle Stop Screw and Idle Screw
6 146-0112	1	1	Shaft Assembly, Throttle	19	146-0209	1	Needle Assembly, Idle Adjust (Package) (Includes Parts Marked \$)
7 146-0145	1	1	*Float Valve, Seat and Gasket Assembly	20	146-0261	1	Kit, Screw - Throttle Adjusting (Includes Parts Marked +)
8 146-0113	1	1	Nozzle				
9 146-0114	1	1	Spring, Choke Stop - Keys 1, 3,4,5,6,7,10				
10 146-0111	1	1	*Shaft, Float				
11 146-0110	1	1	Float Assembly				
12 146-0109	2	2	Screw and Washer				
13 146-0116	1	1	\$*Needle, Idle				

\* - Included in 146-0123 Carburetor Repair Kit.

\$ - Parts Included in 146-0209 Needle Assembly (Package).

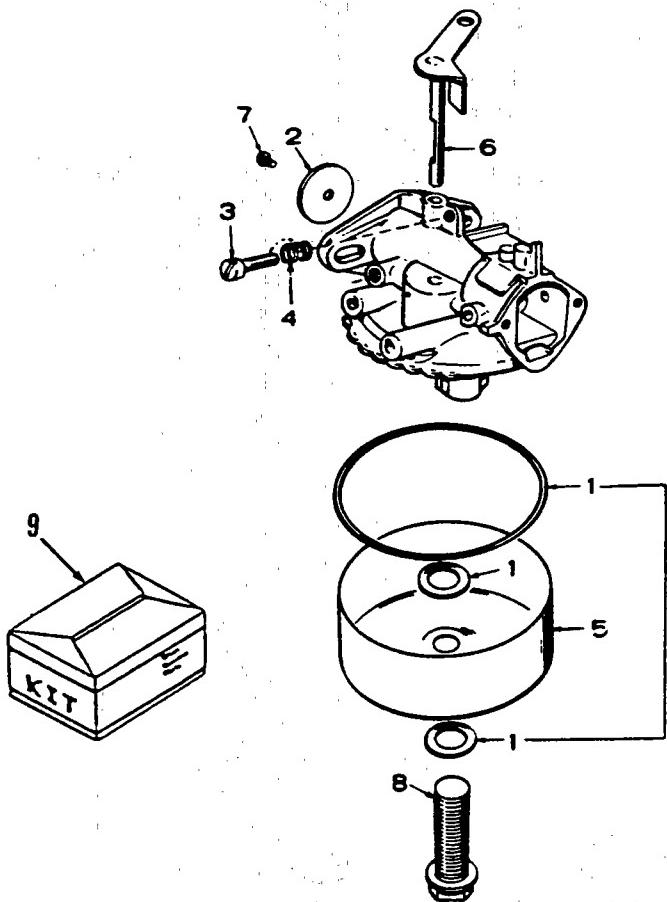
+ - Part Included in 146-0261 Kit.

**Carburetor Parts (Gas) - Specs A through J  
- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1 143-0097	1 143-0097	1	Carburetor, Gas (Replacement Carburetor Order Carburetor Number 146-0091)	8 143-0100	1	Shaft and Weight, Choke	
2 143-0098	1 143-0098	1	Valve, Throttle	9 143-0111	1	Spring, Throttle Stop Screw	
3 812-0014	4 812-0014	4	Shaft and Lever, Throttle	10 143-0112	1	Spring, Idle Adjusting Screw	
4 148-0269	1 148-0269	1	Screw, Round Head (#3-48 x 3/16")	11 143-0115	1	Screw, Throttle Stop	
5 148-0268	1 148-0268	1	Valve, Choke	12 143-0110	1	Plug, Welsh	
6 143-0114	1 143-0114	1	Valve, High Speed Needle	13 143-0109	1	Screw, Idle Adjustment	
7 143-0030	1 143-0030	1	Spring, High Speed Needle	14 148-0267	1	Counterweight, Choke Shaft	
			Plug, Idle Passage	15 148-0412	1	Non-Adjustable	
				15 815-0230	1	Adjustable	
							Screw, Set - Socket - Hex (1/4-20 x 5/8")

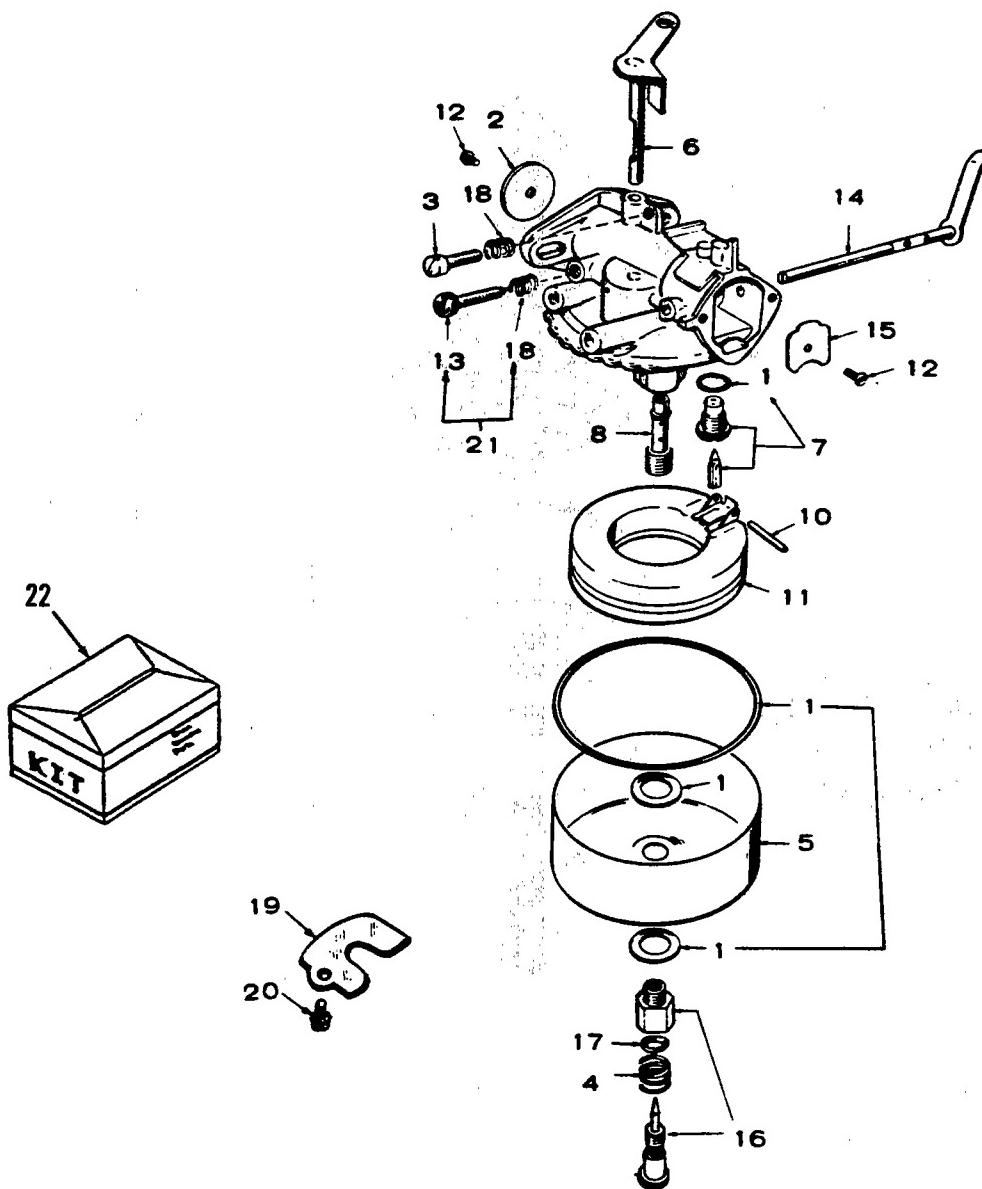
**Carburetor Parts (Gas) - Begin Spec K**  
**- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	146-0091	1	Carburetor, Gas	6	146-0112	1	Shaft Assembly, Throttle
1	146-0124	1	Gasket Kit, Carburetor	7	146-0109	1	Screw and Washer
2	146-0119	1	Valve, Throttle	8	146-0103	1	Screw, Bowl Retainer
3	146-0122	1	+Screw, Throttle Stop	9	146-0261	1	Kit, Screw - Throttle Adjusting (Includes Parts Marked +)
4	146-0186	1	+Spring, Throttle Stop Screw				
5	146-0118	1	Bowl, Fuel				

+ - Parts Included in 146-0261 Kit.

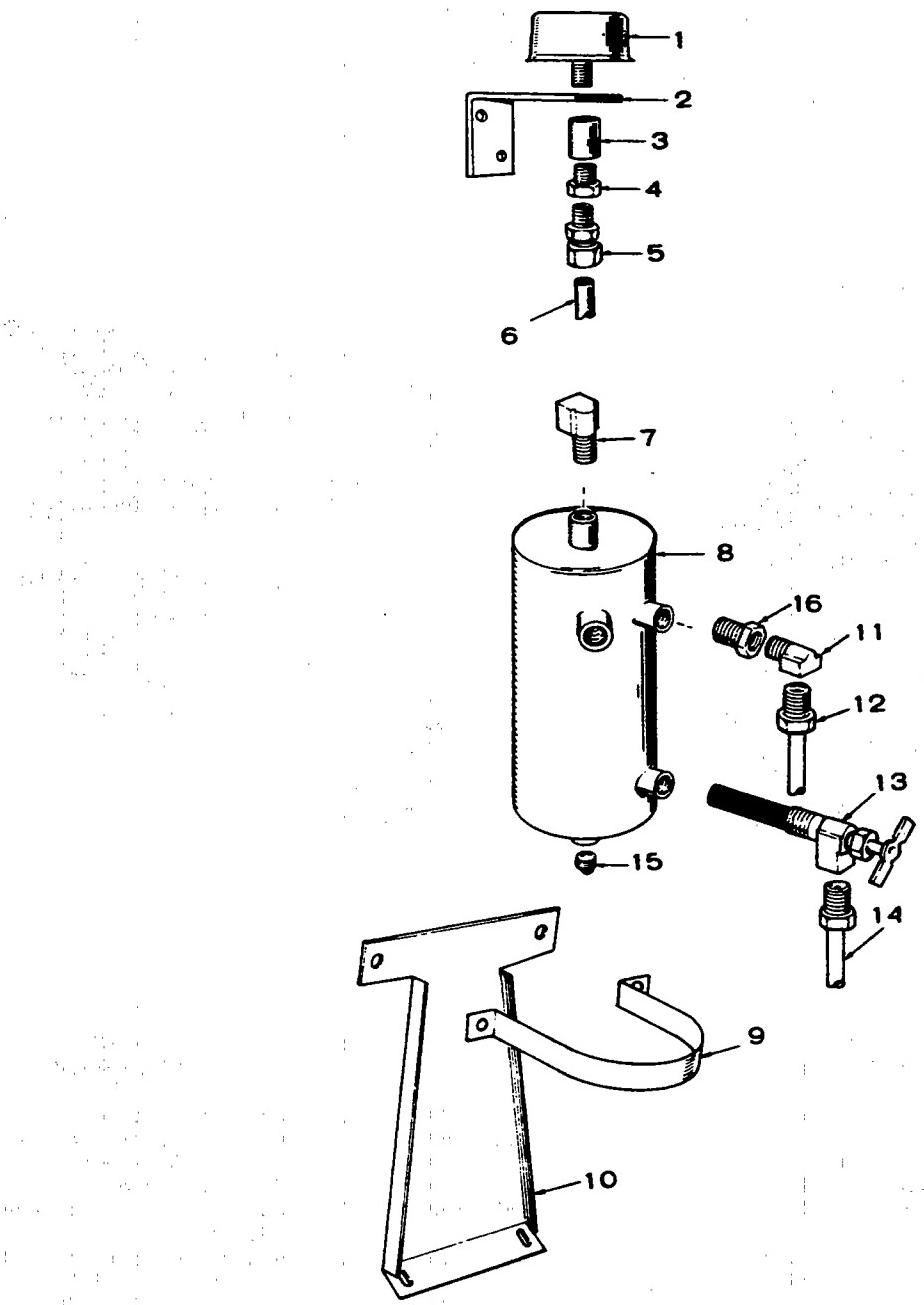
**Carburetor Parts (Rough Service Gasoline)**  
**Keys 2,8,9 - Begin Spec K**  
**Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	146-0140	1	Carburetor, Rough Service - (For complete Carburetor Assembly order #146-0305 Kit)	16	146-0102	1	Needle Assembly, Power
1	146-0124	1	Gasket Kit, Carburetor	17	146-0120	1	Seal, "O" Ring - High Speed Needle
2	146-0119	1	Valve, Throttle	18	146-0186	1	+*Spring, Throttle Stop Screw and Idle Screw
3	146-0122	1	+Screw, Throttle Stop	19	146-0143	1	Baffle, Splash
4	146-0117	1	Spring, High Speed Needle	20	146-0142	1	Screw and Washer, Splash Baffle Mounting
5	146-0118	1	Bowl, Fuel	21	146-0209	1	Needle Assembly, Idle Adjust (Package) (Includes Parts Marked *)
6	146-0112	1	Shaft Assembly, Throttle	22	146-0261	1	Kit, Screw - Throttle Adjusting (Includes Parts Marked +)
7	146-0145	1	Float Valve, Seat and Gasket Assembly				
8	146-0113	1	Nozzle				
10	146-0111	1	Shaft, Float				
11	146-0110	1	Float Assembly				
12	146-0109	2	Screw and Washer				
13	146-0116	1	*Needle, Idle				
14	146-0107	1	Shaft Assembly, Choke				
15	146-0104	1	Valve, Choke				

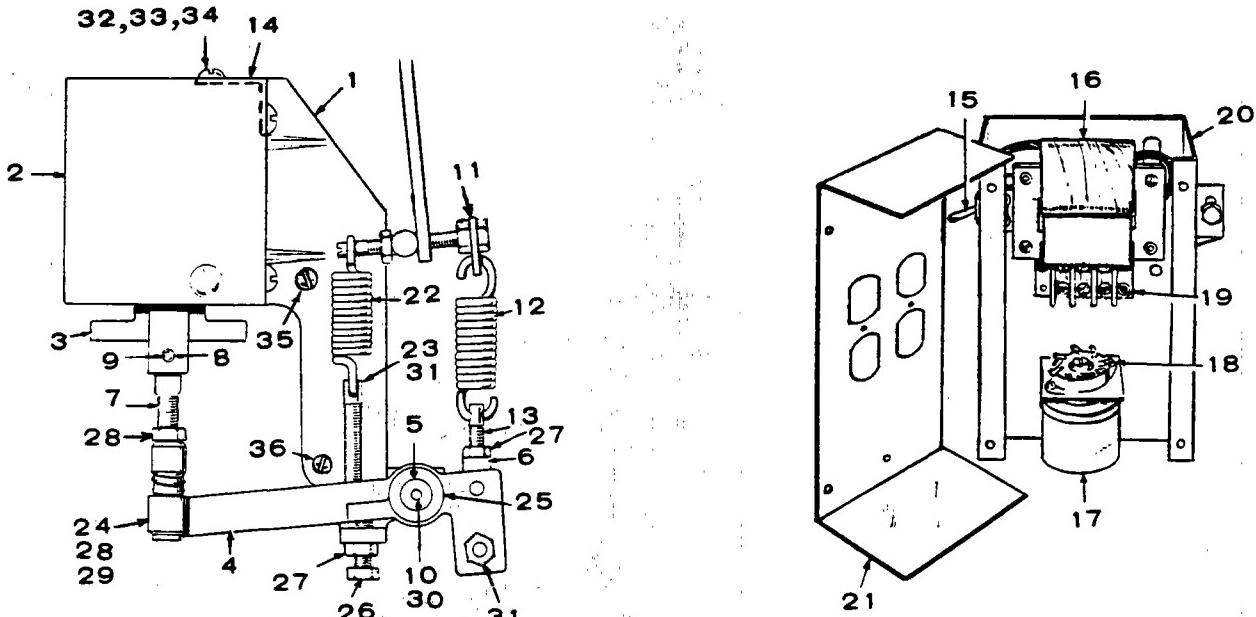
\* - Parts Included in 146-0209 Needle Assembly (Package).  
+ - Parts Included in 146-0261 Kit.

**Reservoir (Day) Tank - One Quart  
- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	159-0041	1	Cap, Vent	10	159-0567	1	Bracket, Reservoir Tank Mounting
2	415-0055	1	Bracket, Vent Cap	11	502-0002	1	Elbow, Street (90° - 1/4")
3	505-0028	1	Coupling, Pipe (3/8")	12	159-0569	1	Line, Fuel - to Fuel Pump (18")
4	505-0016	1	Bushing, Reducer (3/8 to 1/8")	13	504-0013	1	Valve, Shut-off
5	502-0116	1	Connector, Compression	14	159-0566	1	Line, Fuel - to Carburetor
6	159-0345	1	Tubing, Copper (5/16 x 12")	15	505-0057	1	Plug, Tank Drain (1/8")
7	502-0004	1	Elbow, Compression (90°)	16	502-0050	1	Bushing, Reducer (3/8 to 1/4")
8	159-0294	1	Tank, Reservoir				
9	159-0121	1	Band, Reservoir Tank				

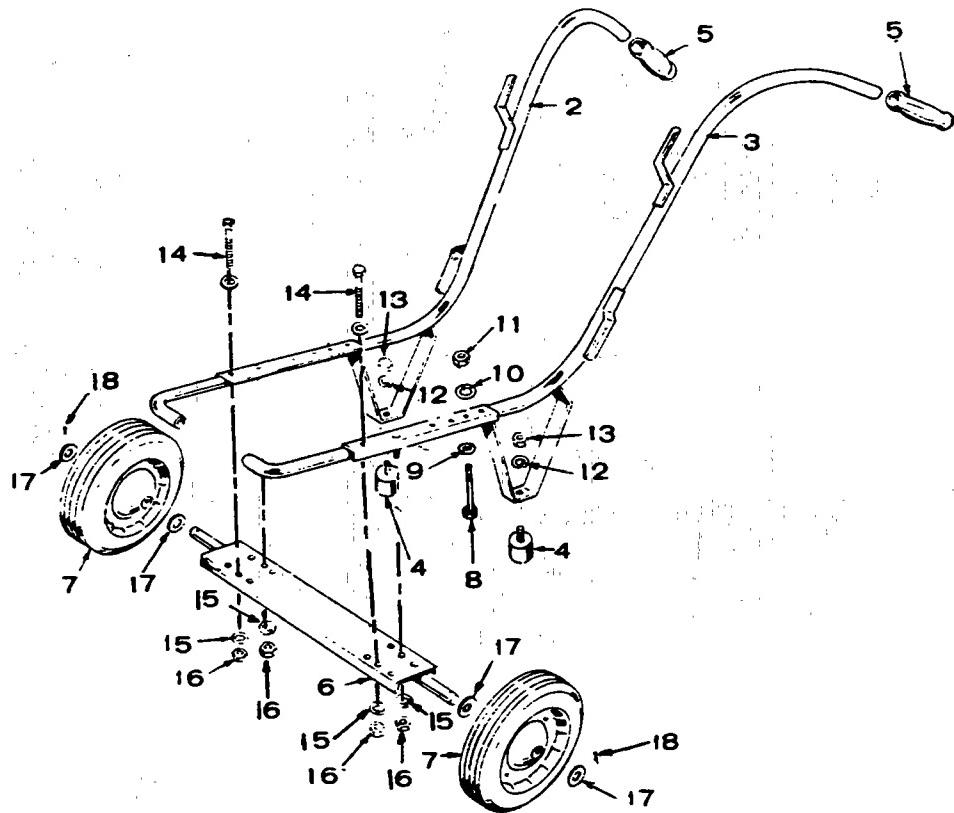
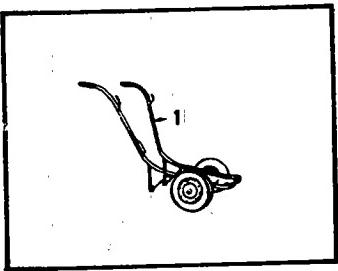
**Idlematic Control - Keys 4, 5, 6, 7**  
**- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-0792	1	*Bracket, Solenoid	20	301-1898	1	Box, Receptacle
2	150-0795	1	Cover, Solenoid	21	302-1899	1	Cover, Receptacle Box
3			Solenoid, Idle	22	150-0098	1	Spring, Governor
	307-0604	1	120 Volt Models	23	150-0213	1	*Stud, Governor
	307-0669	1	240 Volt Models	24	150-0638	1	Joint, Ball - Idle Lever to Solenoid
4	150-0794	1	*Lever, Idle	25	526-0115	1	Washer, Flat (11/32 ID x 11/16 OD x 1/16" Thk)
5	510-0073	1	*Bearing, Idle Lever	26	815-0178	1	Screw (10-32 x 5/8")
6	150-0639	1	Joint, Ball - Idle Lever to Spring	27	870-0053	2	Nut, Hex (10-32)
7	145-0241	1	Link Solenoid	28	115-0025	2	Nut, Hex (Special)
8	508-0091	2	Bushing, Solenoid Plunger (9/64 ID x 3/8" OD)	29	850-0040	1	Washer, Lock (1/4)
9	516-0125	1	Pin, Link-to-Solenoid (1/8 x 1-1/2")	30	862-0001	1	Nut, Hex (1/4-20)
10	815-0231	1	Bolt, Stripper (1/4-20 x 3/4") - Idle Lever	31	870-0131	2	Nut, Lock (10-32)
11	150-0793	1	Link, Idle Control	32	812-0100	8	Screw (10-24 x 1/2")
12	150-0115	1	Spring, Idle Control	33	860-0011	2	Nut, Hex (10-24)
13	150-0796	1	Stud, Idle Control	34	850-0030	2	Washer, Lock (#10)
14	518-0192	3	Clip, Angle - Solenoid Mounting	35	813-0102	2	Screw (10-32 x 5/8") - Bracket Mounting
15	308-0002	1	Switch, Idle Solenoid	36	813-0103	1	Screw (10-32 x 3/4") - Bracket Mounting
16	302-0147	1	Transformer				
17	307-0062	1	Relay, Idle Control				
18	323-0321	1	Socket Relay - Idle Control				
19	332-0406	1	Block, Terminal (3 Place)				

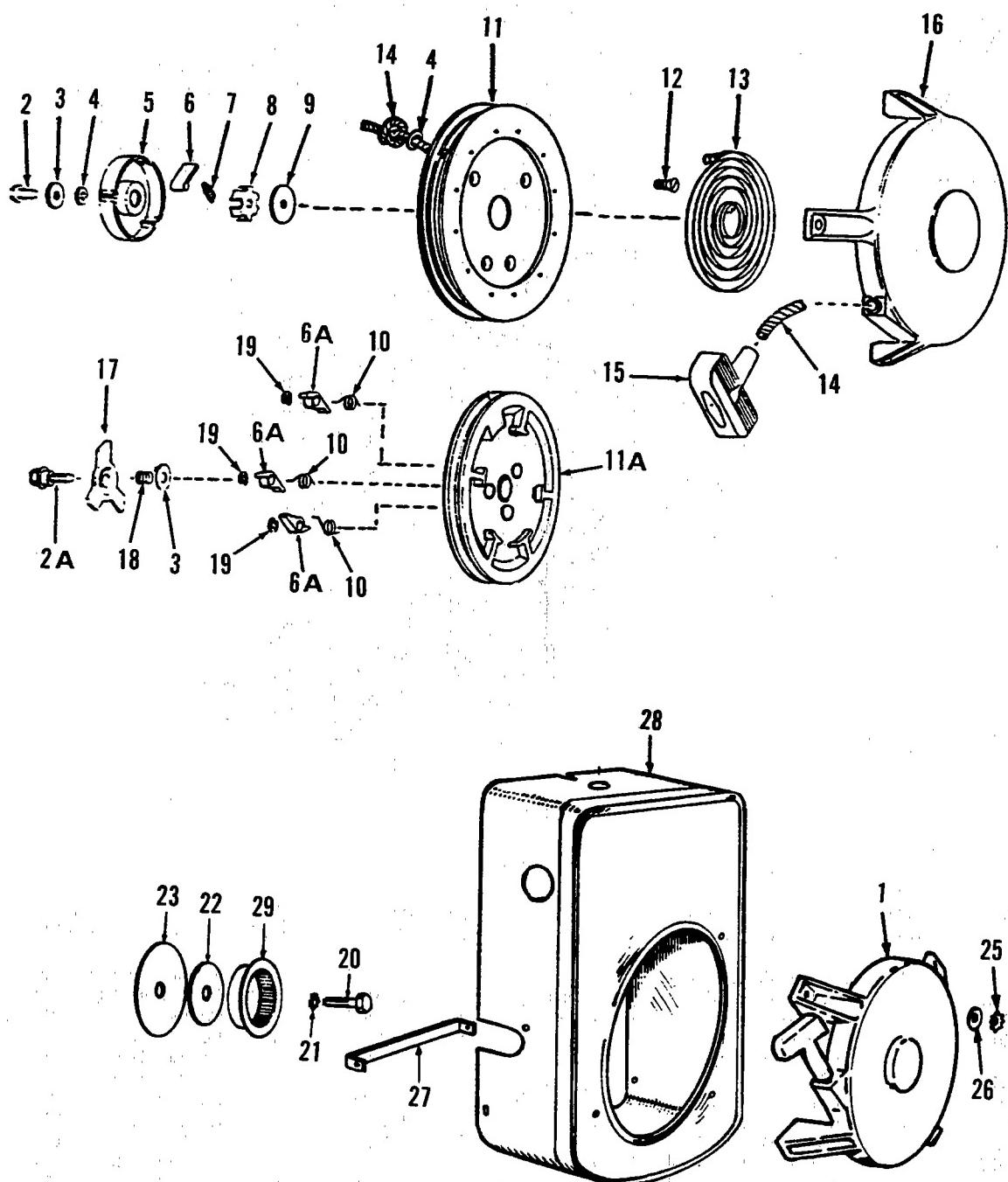
\* - Prior to Serial 740,000 during Spec G Order  
 150-0972 Bracket and Lever Control (Kit).

**Dolly Parts - Keys 1, 4, 6, 10  
- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	410-0219	1	Dolly, Complete	10	850-0050	4	Washer, Lock - Spring (3/8")
2	410-0216	1	Base and Handle, Right Side	11	862-0003	4	Nut, Hex (3/8-16)
3	410-0215	1	Base and Handle, Left Side	12	850-0045	2	Washer, Lock - Spring (5/16")
4	402-0040	2	Cushion, Rubber	13	862-0015	2	Nut, Hex (5/16-18)
5	403-0205	2	Grip, Rubber	14	814-0203	2	Screw, Machine - Flat Head (3/8-16 x 2")
6	410-0222	1	Axle	15	850-0050	4	Washer, Lock - Spring (3/8")
7	410-0223	2	Wheel and Tire	16	862-0003	4	Nut, Hex (3/8-16)
8	800-0058	4	Screw, Cap - Hex Head (3/8-16 x 3")	17	526-0112	4	Washer, Flat (11/16" ID x 1-3/8" OD x 7/64" Thk)
9	526-0030	4	Washer, Flat (13/32" ID x 7/8" OD x 1/8" Thk)	18	516-0042	2	Key, Cotter (1/8 x 1")

**Readi-Pull Starter (Heavy Duty)**  
**Includes Air Housing**  
**- Optional**

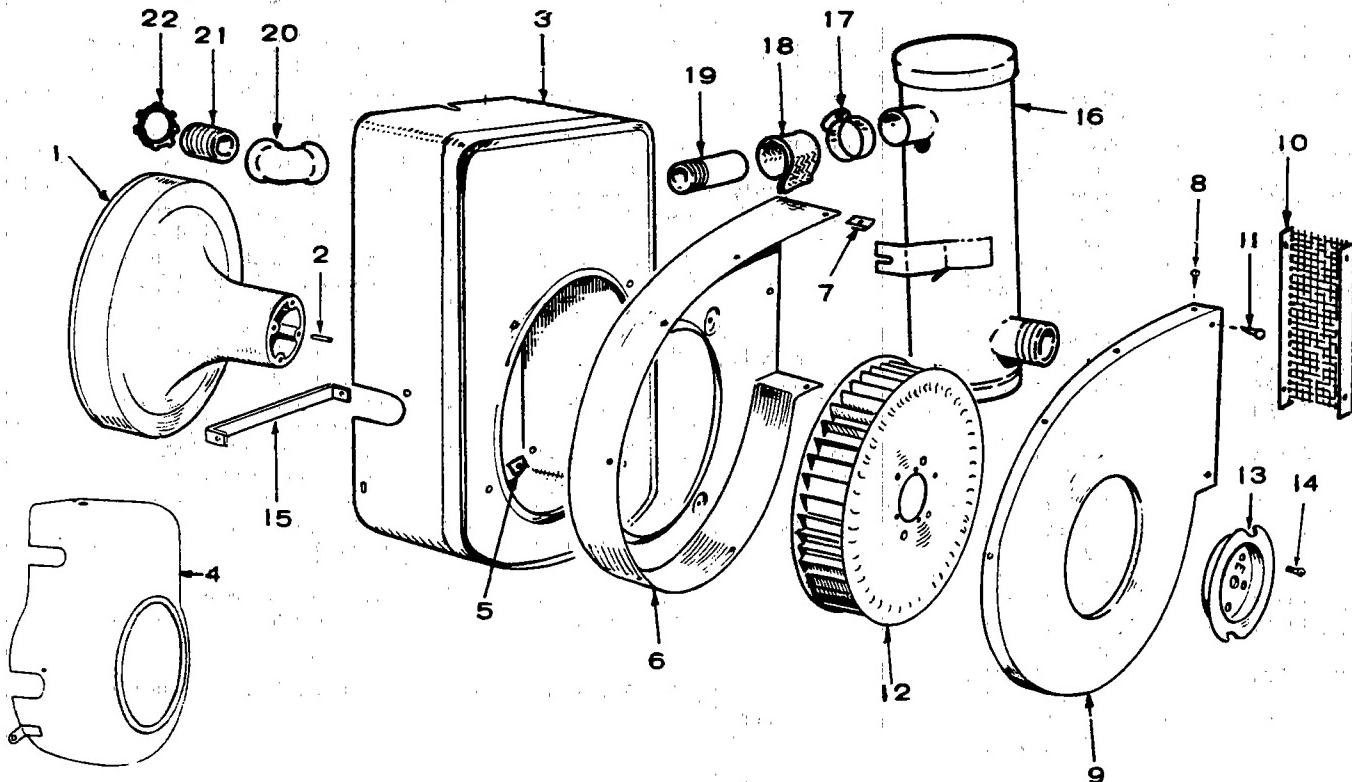


**Readi-Pull Starter (Heavy Duty)**  
**Includes Air Housing**  
**- Optional**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	192-0363	1	Starter, Recoil - Heavy Duty (Includes Parts Marked *)	15	192-0282	1	*Handle Assembly, Starter (For Old and New Style)
2	192-0371	1	*Screw, Retainer (Old Style)	16	192-0383	1	*Housing, Starter (For Old and New Style)
2A	192-0423	1	*Screw, Retainer (New Style)	17	192-0429	1	*Cam, Dog (New Style Only)
3	192-0372	1	*Washer, Brake (For Old and New Style)	18	192-0430	1	*Spring, Brake (New Style Only)
4	192-0373	2	*Washer, Spacer (Old Style Only)	19	192-0431	3	*Ring, Retainer (New Style Only)
5	192-0374	1	*Retainer (Old Style Only)	20	800-0080	1	Screw, Cap - Hex Head (7/16-14 x 3-1/4")
6	192-0375	3	*Dog, Starter (Old Style)	21	856-0012	1	Washer, Lock - External Internal Tooth (7/16")
6A	192-0424	3	*Dog (New Style)	22	526-0172	1	Washer, Flat (1/2" ID x 2-1/4" OD x 1/4" Thk)
7	192-0376	1	*Spring, Retainer (Old Style Only)	23	526-0195	1	Washer, Flat (29/64" ID x 3-1/4" OD x 1/8" Thk)
8	192-0377	1	*Brake (Old Style Only)	24	800-0005	4	Screw, Cap - Hex Head (1/4-20 x 3/4")
9	192-0378	1	*Washer, Thrust (Old Style Only)	25	856-0006	4	Washer, Lock - External Internal Tooth (1/4")
10	192-0425	3	*Spring, Dog (New Style Only)	26	526-0021	4	Washer, Flat (17/64" ID x 3/4" OD x 1/16" Thk)
11	192-0380	1	*Pulley & Sheave Assembly (Old Style)	27	134-1697	1	Bracket, Support - Blower Housing
11A	192-0426	1	*Pulley & Sheave Assembly (Plastic) (New Style)	28	134-1698	1	Housing, Blower
12	192-0381	4	*Screw, Sheave (Early Production Only) (Old Style Only)	29	192-0364	1	Cup, Engaging - Starter
13	192-0382	1	*Spring, Rewind Old Style				
	192-0427	1	New Style				
14	192-0224	1	*Rope, Starter 114" Long x 3/16" Diameter (Old Style)				
	192-0428	1	114" Long x 11/64" Diameter (New Style)				

\* - Parts Included in 192-0363 Recoil Starter

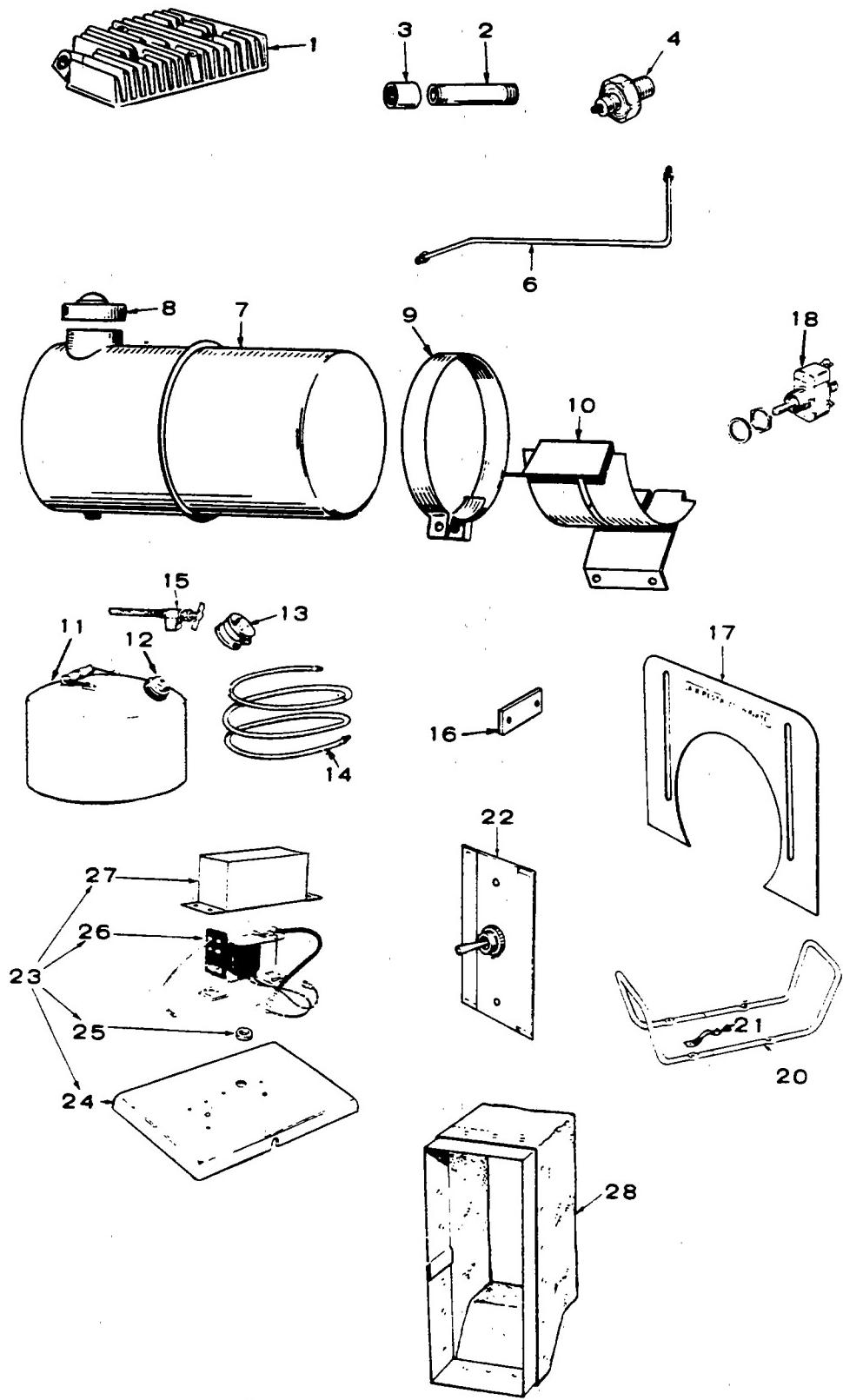
**Vacu-Flo Cooling System  
(Includes Flywheel and Muffler)  
- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Flywheel, Magneto Keys 1,2,3,10 Begin Spec G	11	815-0421	4	Screw, Cap - Hex Head Tapping W/ET Washer (#10-16 x 1/2")
	160-0672	1	Specs A through F	12	134-0563	1	Wheel, Blower
	160-0470	1	Keys 4,5,6,7,8,9 Begin Spec G	13	192-0261	1	Sheave, Rope
	160-0729	1	Specs A through F	14	812-0150	2	Screw, Machine - Round Head (1/4-20 x 5/8")
	160-0466	1	Begin Spec G	15	134-1014	1	Bracket, Blower Housing Support
2	516-0091	2	Pin, Groove (3/16 x 1/2")	16	155-0696	1	Muffler, Exhaust - Begin Spec G
3	134-1101	1	Housing, Blower - Begin Spec G.	17	503-0189	1	Clamp, Muffler - Begin Spec G
4	134-0609	1	Housing, Blower - Specs A through F	18	895-0096	1	Asbestos Strip - Begin Spec G
5	870-0126	3	Nut, Speed (U Type) Begin Spec G	19	505-0431	1	Nipple, Half - Begin Spec G (3/4 x 6-1/2")
	870-0119	3	Specs A through F	20	505-0132	1	Elbow, Pipe (3/4" x 90°) - Begin Spec G
6			Scroll, Air - Rear Begin Spec G	21	505-0102	1	Nipple, Pipe Begin Spec G (3/4 x Close)
	134-1015	1	Specs A through F		505-0341	1	Specs A through F (3/4 x 5")
7	134-0571	1	Nut, Speed (J Type)	22	331-0038	1	Locknut, Chase (Special)
8	870-0120	8	Screw, Tapping (#10 x 3/8")				
9	809-0043	11	Scroll, Air - Front				
10	134-0570	1	Guard, Scroll Outlet				
	134-3080	1					



**Miscellaneous Optional Parts**



M-1365

### Miscellaneous Optional Parts

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	110-1779	1	Head, Cylinder - High Compression (Gas Conversion Kit)	21			Strap, Ground - Blower Housing to Carrying Frame
2	505-0076	1	Nipple, Pipe - Oil Drain (3/8 x 3")	337-0044		1	Keys 1,4,6,10 (6")
3	505-0028	1	Coupling, Pipe - Oil Drain (3/8")	337-0051		1	Keys 5,8,9 (3")
4	309-0237	1	Switch, Low Oil Pressure	22	308-0165	1	Switch and Plate - Remote Start-Stop - Keys 2,8,9
6	159-0504	1	Line, Fuel - Tank to Filter - Keys 2,3 - Specs A through F	23	300-0224	1	Relay Assembly - Start Disconnect - Key 2 - Specs A through F with Load Transfer Control (Includes Parts Marked *)
7	159-0488	1	+Tank, Fuel (1.4 Gallons) - Keys 2,3 - Specs A through F	24	301-1492	1	*Cover, Control Box - Key 2 - Specs A through F with Load Transfer Control
8	159-0007	1	Cap, Fuel Tank - Keys 2,3 - Specs A through F	25	508-0002	1	*Grommet, Control Box Cover to Start Disconnect Relay - Key 2 - Specs A through F with Load Transfer Control
9	159-0154	2	+Band, Fuel Tank Mounting - Keys 2,3 - Specs A through F	26	307-0642	1	*Relay, Start Disconnect - Key 2 - Specs A through F with Load Transfer Control
10	159-0486	1	Bracket, Fuel Tank Mounting - Keys 2,3 - Specs A through F	27	301-1493	1	*Cover, Start Disconnect Relay - Key 2 - Specs A through F with Load Transfer Control
11	415-0126	1	Tank, Fuel (5 Gallon)	28	405-1058	1	Anti-Vibration Package - Vacu-Flo Cooled Units
12	415-0313	1	Cap, Fuel Tank				
13	415-0124	1	Cap, Rain - Fuel Tank				
14	501-0027	1	Line, Flexible (48")				
15	504-0013	1	Valve, Shut-off (with Strainer) - Fuel Tank				
16	149-0136	1	Cover, Fuel Pump Hole in Cylinder Block				
17	134-1438	1	Plate, Air Restriction - Key 3 (24 Volt) - Begin Spec J				
18	308-0097	1	Switch, Momentary - Low Oil Pressure Switch				
20			Frame, Carrying (Includes Attaching Hardware)				
	403-0365	1	Keys 1,4,6,10				
	403-1116	1	Keys 8,9				

\* - Parts Included in 300-0224 Start Disconnect Relay Assembly.

+ - Parts Included in 159-0539 Kit.

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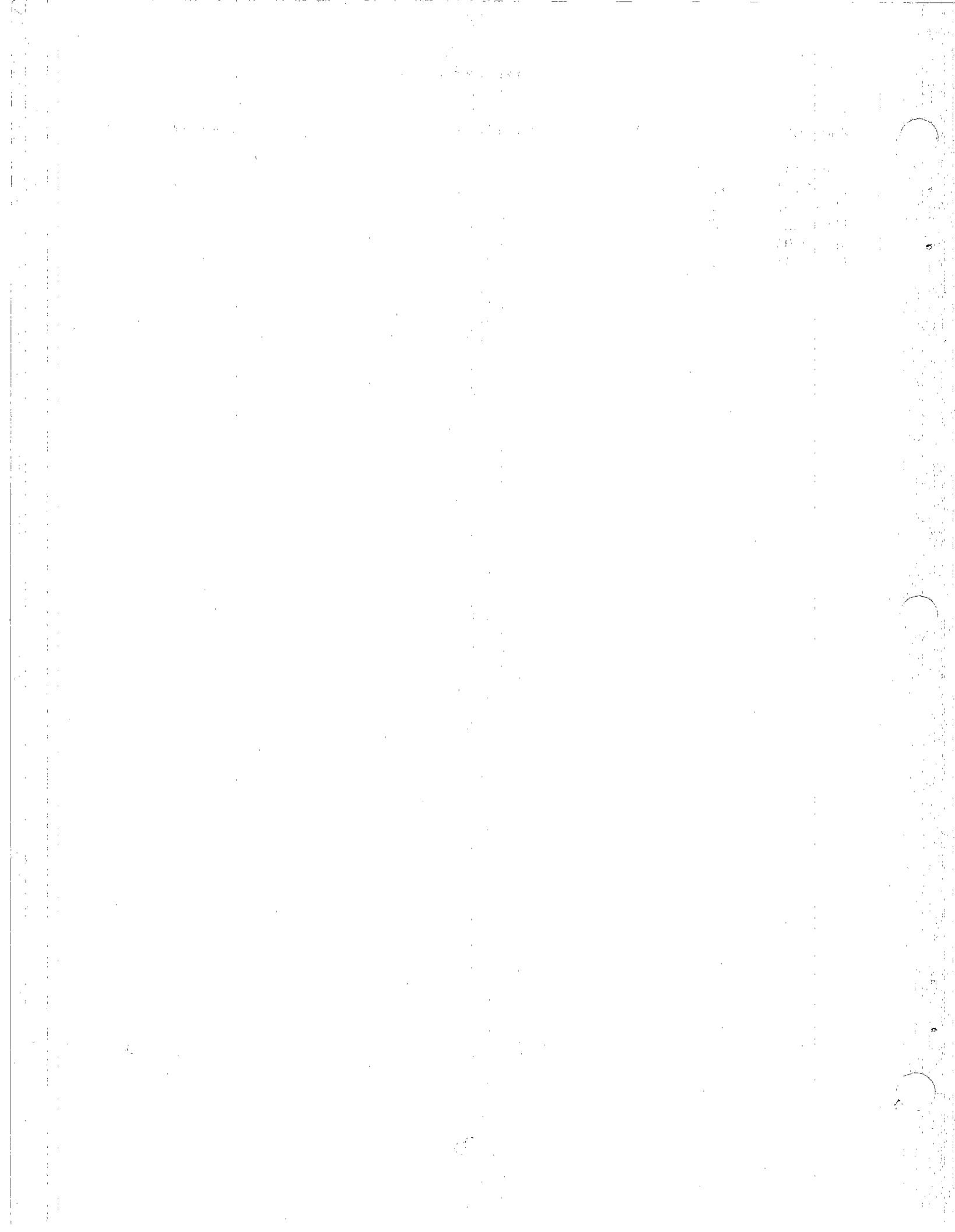
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301-1898	48	309-0237	55	402-0171	21	503-0315	38
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304-0011	20	323-0213	23	410-0222	49	505-0028	55
304-0014	20	323-0321	48	410-0223	49	505-0029	18
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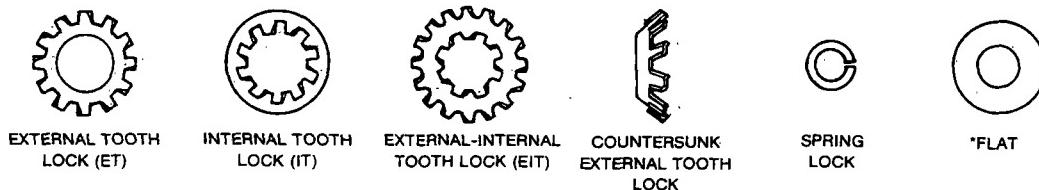
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# HARDWARE IDENTIFICATION

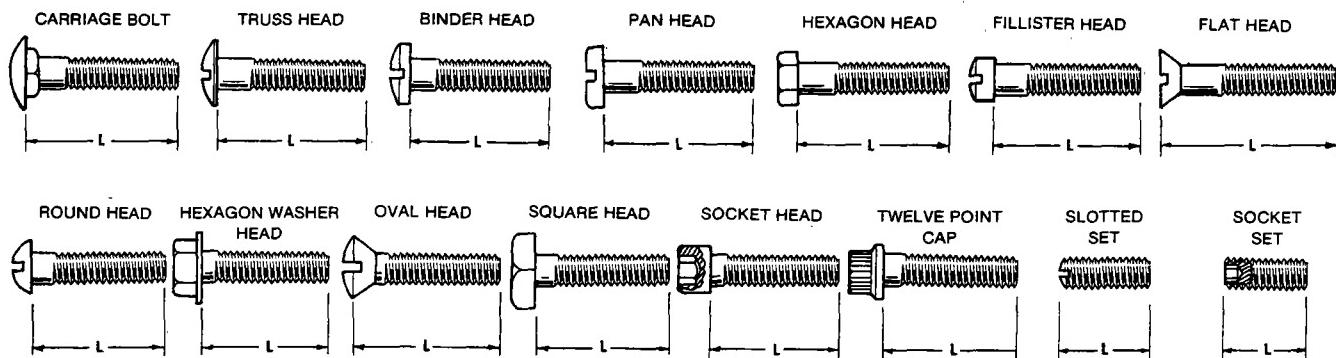
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

## WASHER TYPES



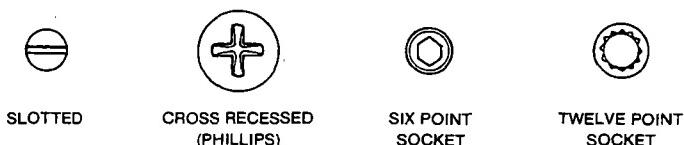
\* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

## BOLT AND SCREW TYPES



L - Measure length between these points.

### INTERNAL DRIVE TYPES



Nominal size (fractional diameter or screw number)  
Number of threads per inch  
Length in inches  
1/4-20 x 3/4"

## NUT TYPES

